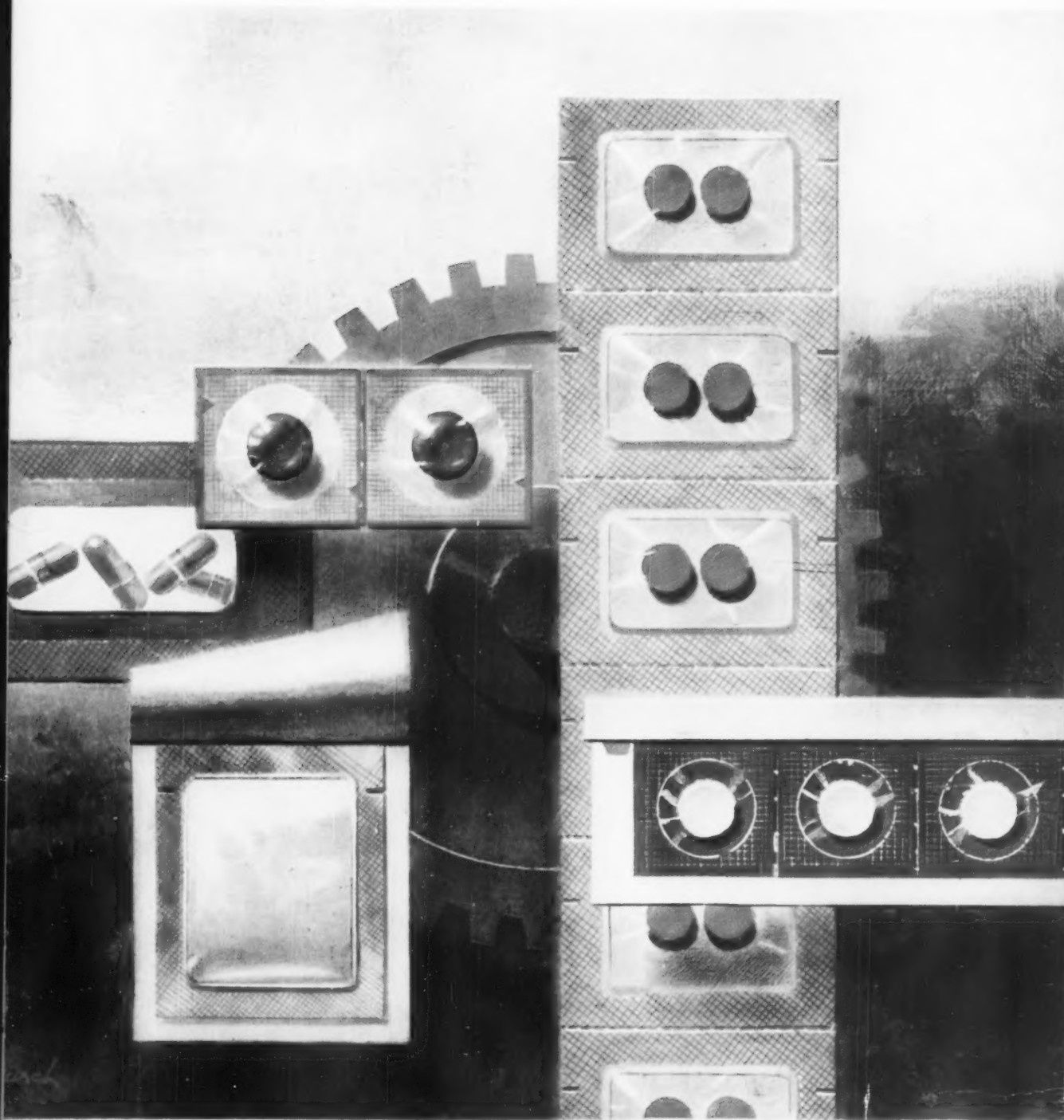


# MODERN PACKAGING



AN ORIGINAL OIL PAINTING FOR MODERN PACKAGING BY WALTER MURCH

**GREAT PACKAGING DISCOVERIES:** *Strip packaging—p. 116*

*Background for Packaging, p. 39*

*World Report, p. 79*

*Editorial Memo, p. 93*

**DECEMBER 1959**

*Complete contents, pp. 2-3*

# Dehydrated Adhesive



Minute Maid Corp., of Orlando, Florida, uses dehydrated Aqua-Flakes® for high speed case sealing. Frozen juice is about 15° below zero. Cases are quickly put in sub-zero storage. A real test of adhesive power!



## REDUCES CASE SEALING COSTS

Aqua-Flakes are high quality liquid glue that has been dehydrated. They give lowest possible cost wherever volume is large. Only the water has been removed. Only the water has to be replaced. Simply by mixing the flakes into water.

Aqua-Flakes eliminate the problems of old-fashioned cold water solubles and cookup dextrines. No

lumping. No changing characteristics due to heating, cooking, storing. No evaporation and bodying up. No wasted batches.

Aqua-Flakes film smoothly. Tack fast. Give excellent coverage. They are used in combining, laminating, heading and wrapping, tube winding, etc. Contact your nearest National office for information.

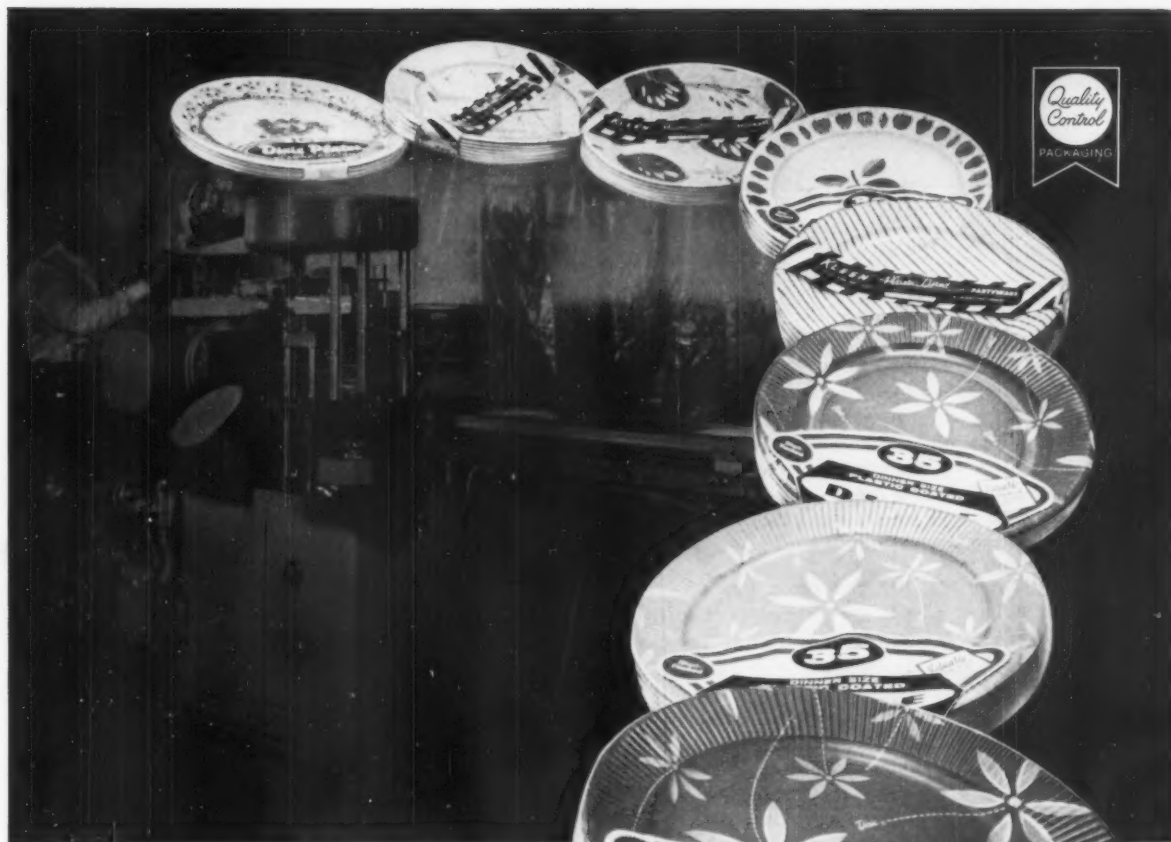
ADHESIVES DIVISION

**National**

STARCH and CHEMICAL  
CORPORATION

750 Third Avenue, New York 17  
3641 So. Washenaw Ave., Chicago 32  
735 Battery Street, San Francisco 11





Packaging machine — Model CKP-2 (Patent Pending)  
by Crompton & Knowles Packaging Corporation

## Packaging Paper Plates?

*Vitafilm is just  
your dish!*

When it comes to packaging paper products, there is no transparent film on the market that does the job so well as VITAFILM.

Witness these smart and smoothly packaged paper plates made by Dixie Cup's\* Kleen Products Division.

Snug wraps—strong, perfectly sealed, excellently transparent, dimensionally stable.

AND VITAFILM *doesn't attract dust*—always a real plus when merchandising containers for foodstuffs.

This great Goodyear film has a wonderful quality "feel," doesn't split or run—and today it is priced right on the button with the most common of the "low-priced three" in transparent films.

Printability is fine—and adaptability to high-speed packaging operations has been proved outstanding.

So with the price right and the performance unmatched, why wait? Get VITAFILM around your product—the greatest thing you can place between you and your customer!

Call your Goodyear Packaging Films Representative. Or write direct for details: Goodyear, Packaging Films Dept. L-6418, Akron 16, Ohio.

*Vitafilm*

BY

**GOOD YEAR**

\*A trademark of the Dixie Cup Division of American Can Company  
Vitafilm, a Polyvinyl chloride—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

*The finest in sheer protection*

95 **Idea exchange**

A producer of garlic oil reads about a roll-on applicator for deodorant. Bingo! The roll-on dispenser is adapted for convenient packaging of garlic oil. Many such examples prove that market-sweeping firsts can come from constant study of packaging innovations in industries other than your own. Here are detailed examples which demonstrate that superior packaging demands attention on the horizontal scope, rather than just the vertical. General interest.

100 **Sundry beauties for the drug store**

In a bid to boost sales 20% in 1960, B. F. Goodrich repackages prosaic rubber sundries in containers as elegant as those usually associated with cosmetics and perfumes. Specially constructed folding boxes make use of full-color photographic illustrations printed on top-quality, high-gloss coated stock. Surface design has strong feminine appeal, since women buy 85 to 90% of all rubber-sundry items. Pastel colors and delicate motifs are featured. Special interest: rubber goods, toiletries, drugs.

103 **Bargain in plastics**

Looking for something new in economical "deal" packaging? Consider the handsome, slide-track, thermoformed blister package used by P. Lorillard. It contains two packs of cigarettes and a lighter. Since retail price of the combination is only about \$1, cost of producing the blister pack is obviously low. Lorillard is merchandising the package exclusively through small dealers, to solidify

brand loyalty and give the "corner store" a sales edge over its big-volume competitors. General interest.

104 **Sales remedy: repackage**

Proof that the best-established product can benefit from package modernization is the marked sales increase scored by 70-year-old Nature's Remedy laxative since its appearance in a redesigned tin with user-convenience features. Along with the new packaging have come big production efficiencies. General interest.

107 **Winners in flexible packaging**

Awards in annual competition sponsored by NFPA reveal significant improvements in the design and construction of flexible packages. There is greater emphasis on protective combinations of materials; polyethylene and foil show up repeatedly among 127 winners. New this year are four "breakthrough" awards, given for first uses of flexible packaging. Special interest: foods, drugs, cosmetics, soaps, soft goods, paper goods, tobacco, hardware, chemicals.

112 **High speed for plastic bottles**

Here's good news for packagers contemplating a switch to blow-molded plastic bottles. At Alcon Labs in Texas, an automatic eight-step straight-through line for liquid ethical drugs handles polyethylene containers at 120 per minute, eliminating many problems of sorting, filling and sealing. Output per manhour is up 157%.

Special interest: detergents, toiletries, cosmetics, drugs, chemicals, insecticides, deodorants.

116 **Strip packaging**

*A Great Packaging Discovery.* The tiny, disposable, sealed single-unit packet, produced in strip form, is one of packaging's big success stories. But dismal failure preceded success. The story begins in 1917, with the development of a plantable paper strip package of seeds. War choked off the supply of special paper and the idea died. Its rebirth and eventual growth were the fruits of a dentist's suggestion, the formation of Ivers-Lee Co. and the development of moistureproof cellophane. General interest.

122 **Toys can live forever**

Worth close study by packagers in every product line are packaging innovations made by Halsam

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"It's the packager who pays."

**MODERN PACKAGING**, Executive and Editorial Offices, 575 Madison Ave., New York 22, N.Y. Phone PLaza 9-2710

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# OF MODERN PACKAGING®

Products. In a field notorious for its high business-mortality rate, this toy-and-game maker has prospered for some 40 years. Such success is largely attributable to a policy of periodic review and restyling of packaging to keep abreast of changing merchandising conditions. General interest.

## 124 The Times in polyethylene



For the first time, packaging forges into the great newspaper industry. Borrowing an idea from other fields, bulky Sunday editions of *The New York Times* that go out by mail are packaged in heat-sealed, thermoplastically labeled, protective bags of 1½-mil film. Copies (averaging 5 lbs.) are bagged at 1,500 per hour, using semi-automatic baggers and a continuous heat sealer and labeler. Special interest: all film packagers.

## 128 New flexibility in can loading

Another advance in high-speed handling of cans is represented by the compact arrangement of four automatic machines now in operation at Falstaff Brewing Corp. Running at 640 cans a minute (goal is 800), the new line cases or tray packs loose cans or six-pack cartons at a cost saving of 20%. Special interest: all can and glass packagers.

## 132 Spotlight on the feature

Packaging that dramatizes product color is used by Penetray Corp. to step up sales of home floodlights. In an ingenious adaption of a conventional carton, the lamp rides outside in full view, yet is securely attached to assembly components packed inside. Special interest: appliances, carton packagers.



## TECHNICAL & ENGINEERING

### 135 Film strengths in heat processing

Research at Massachusetts Institute of Technology uncovers a simple test method for estimating the burst strengths of bags made from flexible plastic films. Of particular interest to packagers of heat-processed foods, it can be used to determine: optimum heat-sealing conditions before processing, effect of heat processing on films and heat-seal strengths, and strength of completed packages at processing temperatures. Behavior data are given on polyethylene, polypropylene and polyester films. By E. G. Davis, M. Karel and B. E. Proctor.

### 138 Selecting package cushioning

How can you tell which is the most suitable cushioning material to use in the packaging of delicate or expensive equipment? This article presents a method for selecting the best and most economical type of cushioning for specific applications, with special emphasis on protection against shock damage. Data show the relative performances of various cushioning materials. Use of these data for solving cushioning problems also is demonstrated. By R. K. Stern.

### 146 Questions & Answers

Advice on readers' technical problems.

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Best examples of package construction and design.

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Pictorial review of noteworthy new packages.

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Techniques for reducing the costs of packaging.

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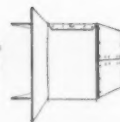
Handy way to find the news in the ads.

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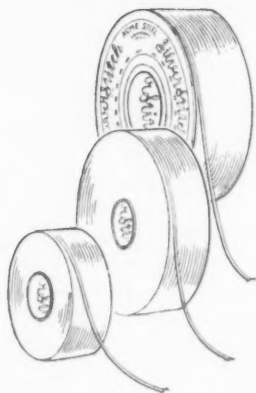




## CLOSURE IDEA BULLETIN



For users of Fibreboard Boxes



### Present closure methods unsatisfactory?

Check advantages of wire stitching... mechanically uniform, secure closures, even with unskilled operators...stitches not affected by heat, cold, moisture...secure closure maintained even when box is wet.

Arcuate stitching method means even greater savings...gives stitches greater column strength which means greater driving strength...allows equally strong stitches from lighter gauge of wire...switching from .020 to .017 gauge saves 12½% on wire costs. Arcuate Folder answers questions about this method.

Wire check points...if it has electro-galvanized, rust resistant finish...close size tolerance and smoothness to protect vital machine parts...is level wound to help eliminate tangles and snags...it's excellent wire. Acme Steel Silverstitch Stitching Wire checks out on all these points.

Stitcher parts orders promptly filled from nationwide network of Acme Steel warehouses and service offices...only genuine Acme Steel replacement parts reflect same high quality and craftsmanship as original parts...can be depended upon to give same long, satisfactory service. AD-154 gives tips on maintenance and repair.

Your Acme Idea Man is available as a consultant on closure problems. His intensive training, backed by Acme Steel Company's 75 years experience with closure problems, can be of real time and material-saving value to you. Call him now at the nearest

Acme Steel office, or write to Dept. MDW-129, Acme Steel Products Division, Acme Steel Company, Chicago 27, Ill., for information on the complete line of Acme Steel box, book and metal stitchers.

**ACME STEEL** WIRE STITCHING





Dobeckmun polyethylene bags provide the showcase for a family of quality sponges produced and sold by the Burgess Cellulose Company, Freeport, Illinois.

DOBECKMUN polyethylene keeps the sponges soft and pliable by holding moisture inside the bag—at the same time lets customers "feel" the sponge without soiling or damage.



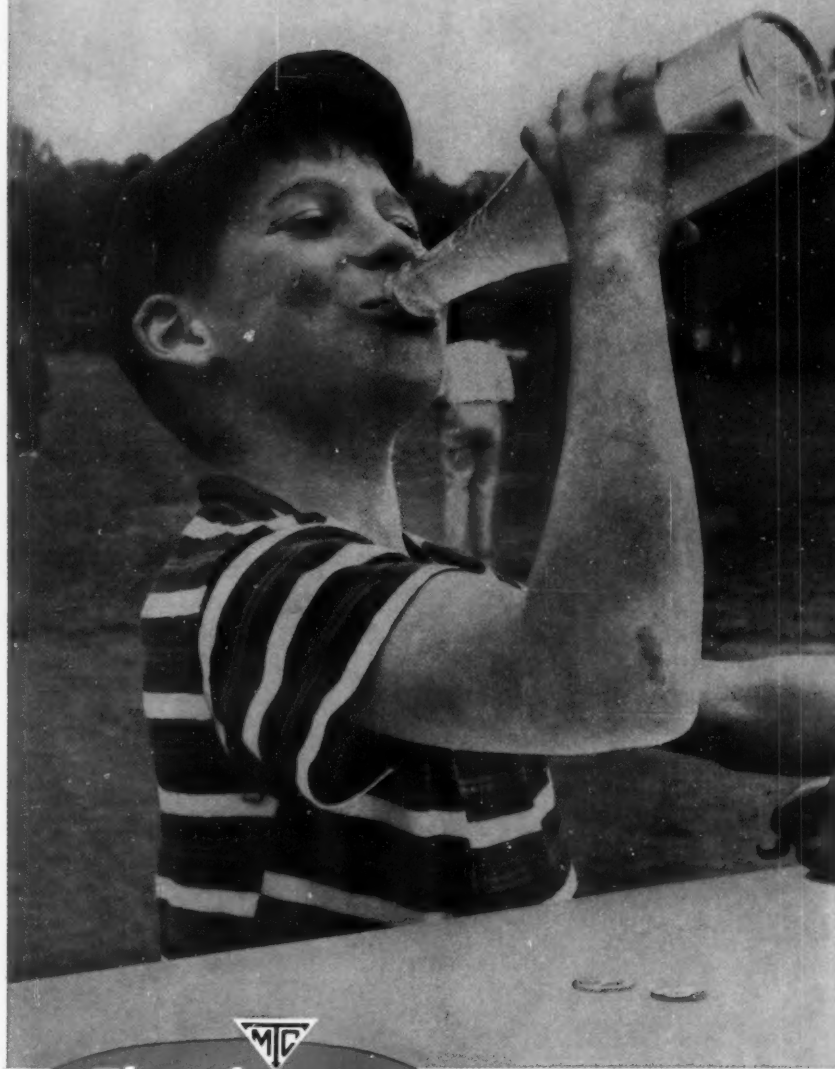
*packages for performance*

# DOBECKMUN

Dobeckmun custom polyethylene bags have helped hundreds of products capture the feeling of special goodness so important to modern merchandising strategy. Vital to their effectiveness is Dobeckmun design and printing skill that creates the fresh, clean image that lends a mark of quality and endows with saleability. Put DOBECKMUN packaging skills to work for your product, with packages for performance from THE DOBECKMUN COMPANY, A Division of The Dow Chemical Company, Cleveland 1, Ohio • Berkeley 10, California • Offices in most principal cities.



**Thatcher Glass**  
delivers the goodness to  
active energetic America!



Thatcher glass bottles are available  
in a full range of sizes including 8,  
16 and 32 ounces.

  
**Thatcher** Glass

Your customers form the pleasant soft drink habit at an early age—and never lose it. Young or old, they enjoy their favorite beverage more in glass bottles because glass protects the wonderful flavor like no other container. Ask your Thatcher representative for the facts on economical Thatcher Wedg-Wall bottles. He'll show you how these strong, quality containers insure extra round-trips . . . how they are increasing profits for many of the country's leading bottlers.

THATCHER GLASS MANUFACTURING COMPANY, INC., NEW YORK, N. Y.

FACTORIES: Elmira, N. Y., Jeannette, Pa., Streator, Ill., Lawrenceburg, Ind., Saugus, Calif., Nashua, N. H., Muscatine, Ia.

SALES OFFICES: Elmira, N. Y., Boston, Hartford, New York, Philadelphia, Detroit, Chicago, Minneapolis, Louisville, Los Angeles, San Francisco, St. Louis



## Aerosol Containers\* by Crown

*open profitable new markets*

Fully inflate a flat tire in seconds. Thousands and thousands of motorists have seen the value of this new aerosol product which provides this convenience, anywhere, any time, easily. Ideal for bicycle tires, wading pools and other home uses, too. The container, of course, is made by Crown, pioneer and world's largest manufacturer of aerosol cans.

Hundreds of liquids, semi-liquids and gases, marketed in pressurized containers, are bringing new profits to their manufacturers. Are your products among them?

Your inquiry will be answered promptly.

\*Only Crown manufactures both fabricated and seamless Spra-Tainer aerosol containers.

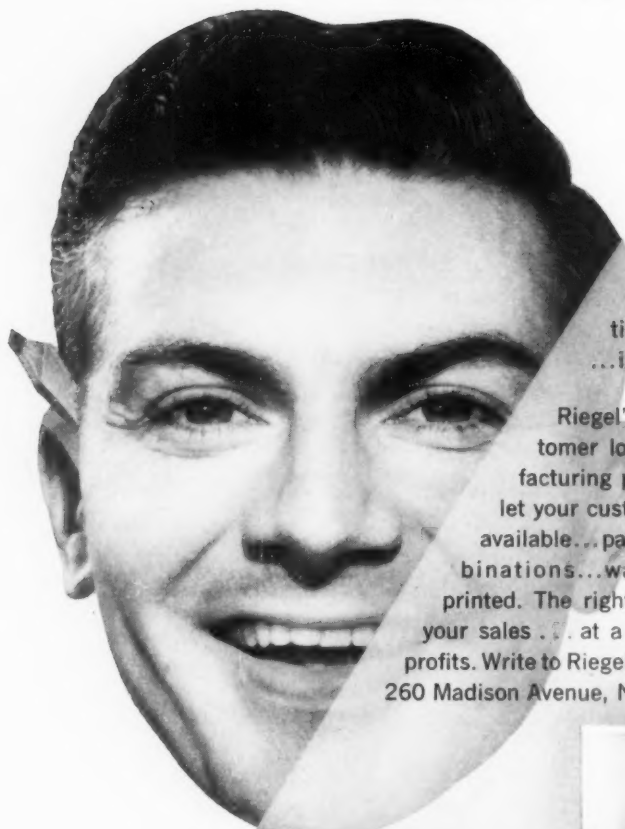
**CROWN**

*for cans • crowns • closures • machinery*



CROWN CORK & SEAL COMPANY INC., 9300 Ashton Road, Philadelphia 36, Penna.

# Just Between You and Your Customer



The sales success of any product depends upon the creation of a broad market of loyal customers. One of the custodians of this loyalty is your package...the protection it gives your product...its eye-appeal...its ability to stay clean and neat.

Riegel's business is helping to build customer loyalty, by developing and manufacturing packaging materials that never let your customers down. More than 600 available...papers, foils, films and combinations...waxed, coated, plain or printed. The right Riegel material helps your sales...at a cost that helps your profits. Write to Riegel Paper Corporation, 260 Madison Avenue, New York 16, N.Y.

## Riegel

**PROTECTIVE  
PACKAGING  
MATERIALS**

Stanley Hardware division of the Stanley Works packages its Magnetic Catch in a special opaque paper... made, printed and heat-seal poly coated by Riegel.



# CANCO'S NON-DRIP CAN

A VARIETY OF  
PLASTIC CAPS  
MANUFACTURED  
TO YOUR  
SPECIFICATIONS

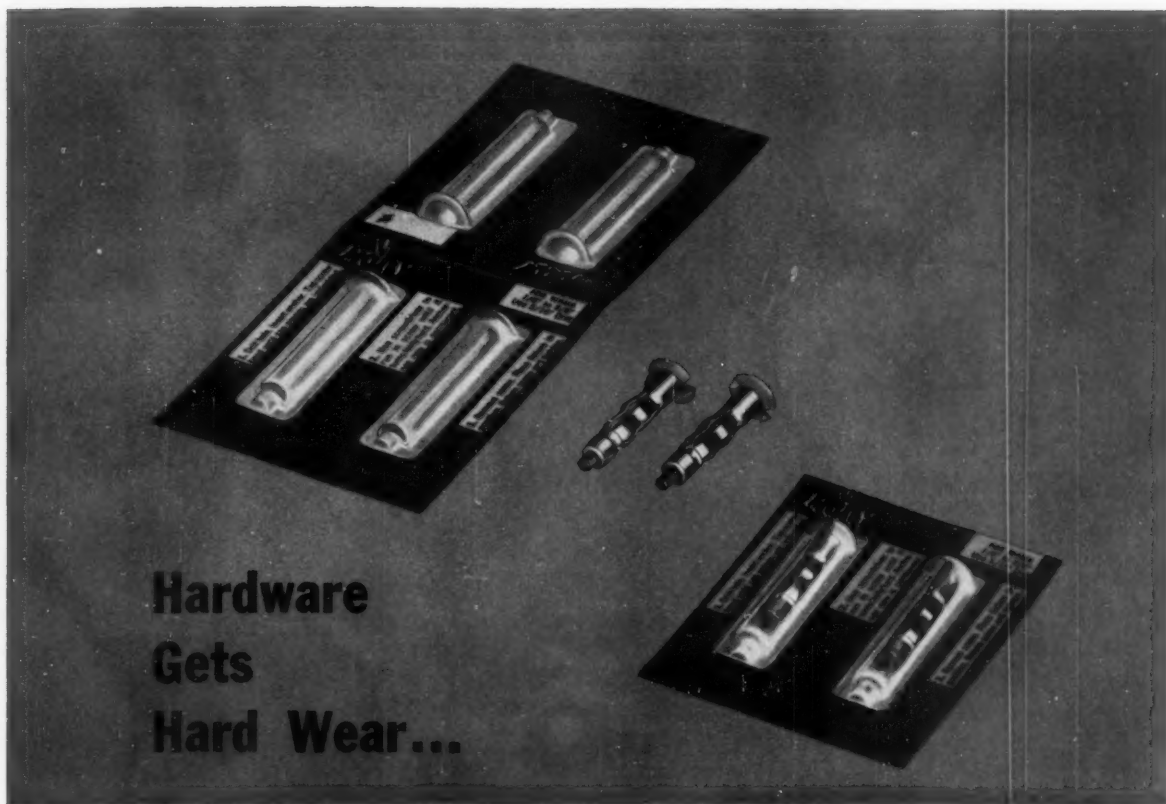


The sensational can for almost any liquid product . . . *perfect* for edible oils and syrups! In supermarkets, drug stores, filling stations, everywhere—you'll see Canco's Non-Drip Can. It's boosting sales for dozens of products and it can do the same for your liquid specialty!

• Consider the features of this outstanding package: A clinched nozzle that pours freely, yet won't drip a drop when righted. Full decoration on top, on sides. Easy to fill, compact, lightweight, handy, unbreakable. In short, everything you, your dealers and your customers want in a modern container! • Ask your Canco representative today for details about this sales-making can and how it can serve your product!

AMERICAN

CAN COMPANY



**Hardware  
Gets  
Hard Wear...**

## Acetate Sheeting

by **JOSEPH DAVIS PLASTICS CO.** helps sell many hardware products by creating impulse sales through effective visual packaging. In addition, this type of blister pack gives the buyer the advantage of examining the product as to size, suitability, etc. without disturbing the package. That is why **Contour Packaging Corp.** of Philadelphia chose JODA crystal clear acetate to package hollow wall fasteners for the Molly Corporation, Reading, Pa.

JODA extruded acetate sheets, rolls and film in all gauges — transparent, translucent or opaque — are excellent for vacuum forming. Why not investigate the advantages of JODA acetate and see for yourself how it can help solve your packaging problems?



**JOSEPH DAVIS PLASTICS CO.**

430 Schuyler Ave.  
Kearny, N. J.

Phone  
WYman 1-0980  
N. Y. Barclay 7-6421





## cleanser in a glamour-package

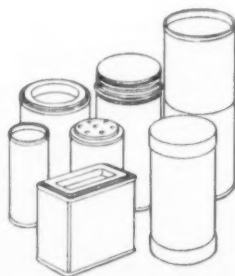
White King packages their new quick-action cleanser with an easy-to-remove label. The wrapper band zips off as easily as opening a package of cigarettes, leaving a beautiful foil container free of advertising. This removable type of label permits change in copy without any change in the container proper.

A choice of colors... 4 different pastel color combinations to harmonize with kitchen or bath.

The lustrous foil keeps the contents dry, and the coated metal bottom eliminates a rust ring.

This innovation in packaging has resulted in a large increase in sales in a very competitive market. Here is another example of how our Engineering Department can help you glamorize your product with a new practical low-cost container.

*Investigate the complete line of Cleveland Containers. Write for our latest packaging brochure.*



## THE CLEVELAND CONTAINER COMPANY

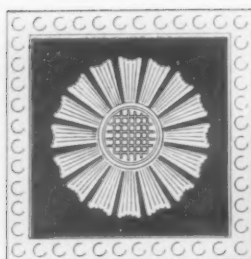
Plants and Sales Offices:  
Cleveland  
Detroit  
Chicago  
Memphis  
Los Angeles  
Plymouth, Wis.  
Jamesburg, N. J.  
Fair Lawn, N. J.

6201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS  
SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

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Washington, D.C.  
Rochester, N. Y.  
West Hartford, Conn.  
•  
Abrasive Division  
at Cleveland



# Schenley Elegance

achieves its Most Brilliant Expression in the New Registered-Embossed

## REYNOLDS WRAP ALUMINUM PACKAGING

Catching the light from any angle, this year's carton overwrap for Schenley Reserve Whiskey flashes its reflections like an illuminated display. *The secret is Registered Embossing.* It's the gleam of aluminum, the beauty of aluminum as color-printed by Reynolds, raised to an even higher point by new embossing techniques. Nothing could better suit the concept of Schenley Elegance!

Outstanding sales success is certain with this outshining package. And the reason goes deeper than outer splendor. The customer gets a Quality Impression which is imparted directly to the contents. This is a fact demonstrated in a recent consumer study: "The Image of Aluminum Foil."

The richness of this overwrap makes it a striking example of what we call the *New Economics* of Reynolds Wrap Aluminum Packaging...the fact that cost is always relatively low, compared to other soaring expense factors, while return on investment is high. This is true whether your package need is for display alone, or for the product protection in which aluminum foil excels. Let us prove it...and also bring you data from the consumer study mentioned above. Call any Reynolds sales office. Or write to Reynolds Metals Company, Richmond 18, Virginia.



### BRAND POWER PLUS!

This Seal tells its powerful story on more and more protective packages. 8 out of 10 shoppers know it... 7 out of 10 of these shoppers prefer products carrying it!



See these Reynolds shows on ABC-TV Network: James Michener's "ADVENTURES IN PARADISE" and "BOURBON STREET BEAT" Monday Nights, "ALL STAR GOLF" Saturdays.





# UNBREAKABLE

## GILBERT PLASTICS' STACK-CAPS

Fit all fabricated 211's



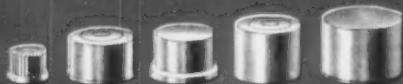
#301

## COSTS LESS than ordinary stack caps!

Now! Gilbert Plastics' new #301 covers and protects all nozzle styles of fabricated 211 cans. The #301 fits over the outside rim with positive snap-fit. Keeps nozzle dirt-free . . . adds height to your product . . . stacks easily for display.

Gilbert Plastics has the most complete line of plastic stack caps — the right cap to fit every aerosol can in every size and valve style. Write today for samples and prices.

You can depend on GILBERT PLASTICS  
for all your aerosol closure needs.



*Inquiries from qualified factory representatives invited.*



Manufacturers of Fine Plastic Packaging.

Executive Office and Plant: BORIGHT AVENUE, KENILWORTH, N. J. • BRIDGE 2-6400  
Canadian Distributor: TWINPAK, LTD., 6525 SOMERLED AVE., MONTREAL, QUEBEC  
British Affiliate: I-T-O-I PLASTICS, BRIDGE CLOSE, ROMFORD, ESSEX, ENGLAND





## Tygart Valley glass containers emphasize the quality and texture of your food products

Nothing will set up a food product for quick appraisal at the point of sale like a quality glass container. All the appetite appeal of the product shows through . . . and when it's a crystal-clear Tygart Valley glass container, you are assured dimensional uniformity and overall high quality to provide uninterrupted service on the modern, high speed filling line.



**BROCKWAY GLASS**

COMPANY, INC., Brockway, Pennsylvania  
Sales Offices in Principal Cities

Subsidiary: Tygart Valley Glass Company, Washington, Pa.

## A Clark bar gets wrapped attention in a Cellu-Craft package

Clark Bar's crisp, crunchy candy center brings joy to millions of youngsters who were attracted to this toothsome delight by the bright glassine wrapper. To keep sales climbing, D. L. Clark Company calls on Cellu-Craft to provide the smooth color laydown and printing perfection that increases impulse purchases. Cellu-Craft can process your package in a variety of ways to give you the *wrapped attention* that means more sales at checkout counters. For full information on how you can get increased volume and greater production economies, write or phone today.

# CELLU-CRAFT

PRODUCTS CORPORATION

*General Offices & Plant: 1401 4th Ave., New Hyde Park, New York, PRIMROSE 5-8000 Sales Offices in principal cities*

**DESIGNING** of flexible packages. **PRINTING:** Glolux® Gravure, Process, Line & Tone Flexography on Cellophane, Pliofilm, Polyethylene, Foil, Acetate, Glassine. **CONVERTING:** Rolls, Sheets, Bags, Pouches, Envelopes.



# CASE up to 500 packages per minute\*

## TOP OR END LOADING ▸

with a



Distributed  
Exclusively  
by FMC

### CUTS CARTONING COSTS

Now, with only a moderate capital investment, you can replace obsolete casing methods with a new "Sure-Way" automatic, high-speed package caser—and save up to 70 and 80% in man-hours alone!

This is the most economical and versatile package caser on the market today. With low-cost change parts and accessories, the "Sure-Way" is quickly adapted to virtually any casing application. Regardless of your choice of assembly—right or left hand, or of the three discharge arrangements, you'll find the "Sure-Way" extremely compact, reducing space requirements as much as 80%!

### MANY OTHER OUTSTANDING FEATURES

Near-human in gentleness to packages and over-wraps • Complete safety through automatic controls • Loads top, end or side-opening cartons • Low power costs • Virtually no maintenance required!

Write today for Bulletin No. CMD 601-W, or call your nearest FMC representative.

\*Depending on package size, type loading case, casing pattern.



Many of General Mills famous products are cased by 33 high-speed "Sure-Way" Casers. Typical is this trouble-free installation at their Toledo, Ohio, plant.

*Unmatched for  
flexibility of case loading  
patterns, package sizes*

There are dozens of patterns and casing combinations that can be handled smoothly and efficiently by the "Sure-Way." Put your problem up to our package engineers for recommendations that can mean big profits through proper package handling! No obligation, of course.



*Putting Ideas to Work*

**FOOD MACHINERY AND CHEMICAL CORPORATION**  
**Sure-Way Caser Equipment**

General Sales Offices

FMC PACKAGING MACHINERY DIVISION: 4900 Summerdale Ave., Philadelphia, Pa.

CANNING MACHINERY DIVISION: Hoopeston, Ill. • San Jose, Calif.

*Another FOIL packaging success with ANACONDA ALUMINUM...*



When your family reaches for Nabisco  
they find cereal kept crisper by  
**ANACONDA ALUMINUM FOIL**

Getting your family's day off to a crisp start is Nabisco's business. Their honey-coated cereals are something special at breakfast; but honey's habit of attracting moisture made guarding crispness a problem in protective packaging. The problem was solved with an inner-pouch consisting of a triplex lamination made by Riegel Paper Corporation, New York City, using **Anaconda Aluminum** foil between outer layers of Riegel glassine, to assure product protection.

Nabisco cereals get *continued* protection, too, because the

inner-pouch refolds to seal in crispness, right down to the last crunchy bowlful.

To give your product that something "extra" for added sales, give it special packaging in aluminum foil. Contact your nearby Anaconda Aluminum representative, or write our General Offices. Also, for more information about us, write for our new booklet, "*This is Anaconda Aluminum*", Dept. MF-12 Louisville 1, Kentucky.

**When you buy foil for packaging or printing,  
remember... every industry has one member who  
specializes in customer satisfaction.**



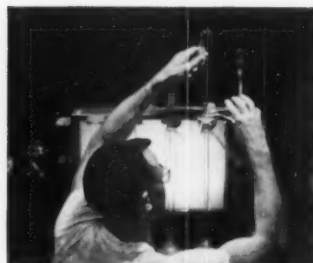
ANACONDA ALUMINUM COMPANY • GENERAL OFFICES, LOUISVILLE, KENTUCKY



# At Eastman

## QUALITY CONTROL

### is a company's conscience "at work"



**You** can measure a company's conscience by the care taken to uphold the quality of its products.



If those products are plastics, uncompromised control is a "must"...for plastics are unique materials. Perhaps no other class of raw materials used by the manufacturing industries has so many variable—yet controllable—physical properties. Flow or moldability, stiffness, heat resistance, weather durability, color, light transmission, hardness...are just a few of the properties that can be custom tailored to meet the needs of a specific application or a specific fabricating procedure. Such flexibility in setting the physical properties of a raw material is an advantage which must be protected by accurate control. For once an acceptable formulation has been created and sold to satisfy both performance and produc-

**Tenite is more than a trade name for Eastman's plastics  
...it's a pledge of promised performance**

tion demands, it is necessary to maintain those properties within extremely narrow limits to assure trouble-free molding operations as well as satisfactory service.

At Eastman, Tenite Quality Control is the vigilant watchdog over the production of all Tenite plastics. This group has the continuing responsibility to conduct all necessary testing to forestall deviation from the specifications set for the many formulations.

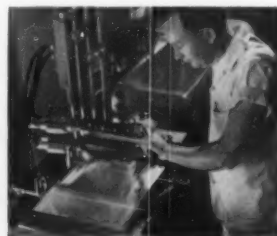
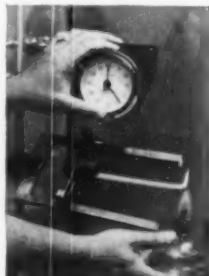
So varied and so complete is the testing done by Tenite Quality Control, that this one control section of Eastman requires a staff of over 100 trained personnel.

Acting as a nerve center, sensitive to any factor that could swing a formulation away from its prescribed limits, Quality Control approves or rejects the results in all phases of the production of every pound of Tenite plastic made.

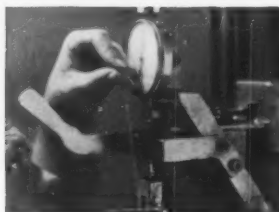
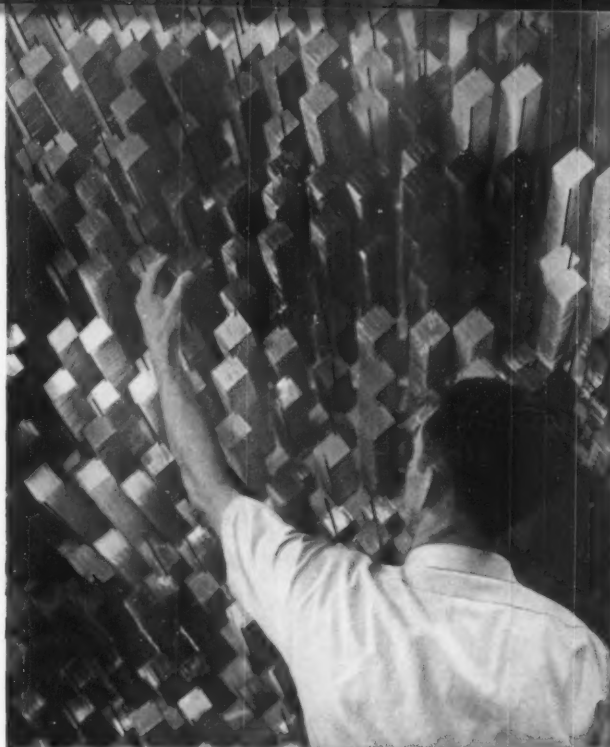
Control of quality begins with approval of the basic raw materials. Even

though most of the basic materials that go into Tenite plastics are supplied by other members of the Eastman industrial family, Tenite Quality Control has the final voice

in the acceptance or rejection of these materials. At Kingsport, Tennessee, where Butyrate, Acetate and Propionate are made, raw materials such as cellulose esters, plasticizers, colorants and other additives are rigorously tested and graded on their suitability for compounding into clear transparent plastic or into transparent, translucent or opaque colored plastics. Indicative of the care taken to assure shipments of Tenite plastics that are right for each use, is the fact that no order for Tenite Butyrate, Tenite Acetate or Tenite Propionate is filled "out of stock." Every







order for these three plastics is made to order as a separate batch, custom-produced to meet the exact specifications requested.

At Longview, Texas, where Tenite Polyethylene in both low- and medium-density grades is produced via continuous processing, Quality Control maintains a constant check of the purity of the ethylene gas as it enters the reactors.

During production of both cellulosic and polyethylene plastics, various tests are conducted at intermediate stages to insure proper control of the chemical reaction. Similarly, after production, samples of the plastics are carefully

molded by Quality Control to be sure their forming characteristics are suited to the customer's fabricating equip-

ment. In addition, flow, color, along with physical and chemical stability are also checked. If any special qualities, such as fire retardance or resistance to ultra-violet have been specified, Quality Control runs extra tests on the plastic before shipment to confirm that these requirements have been met.

Color gets particular attention. Over the years, Tenite plastics have won an enviable reputation for accurate color matches. To date, plastics in more than 40,000 different colors and color effects have been produced by Eastman.

Finally, after Quality Control has been satisfied that the Tenite plastic will fully meet all specifications of the customer's order, it is approved for shipment. Even after shipment, Quality Control remains in the picture. Physical samples of all plastics shipped are kept for six months. In addition, all records on the processing of these shipments are retained for five years. Result: Quality Control has a continuing

guide for filling subsequent orders with duplications of the original plastic.

Ever since Eastman began producing plastics in 1932, an alert awareness has existed that users of plastics have a critical need for material that is consistent in its performance and handling properties shipment after shipment. If one word were to be singled out to describe the outstanding virtue of Tenite plastics, it would have to be chosen from such adjectives as *uniform, consistent, unvarying, dependable*. But whatever the word, the end-result has been satisfaction for our customers... *and for us.*

And, after all, that's the purpose of having a conscience.

The full story of the detailed testing that underwrites the reputation of Eastman plastics, is told in a 20-page booklet, "QUALITY CONTROL." For your free copy or more information on Tenite plastics, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSFORD, TENNESSEE.



# TENITE®

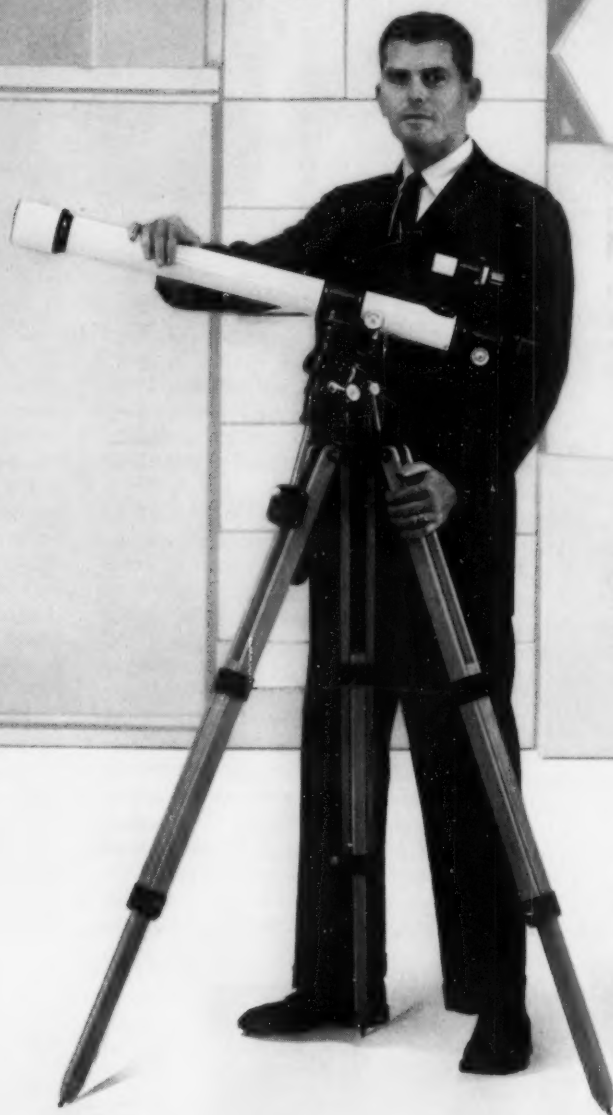
BUTYRATE • POLYETHYLENE • PROPIONATE • ACETATE

*Dependable plastics by Eastman*

# GAYLORD PROBES THE UNIVERSE FOR PACKAGING IDEAS

A galaxy of well-equipped Gaylord researchers constantly scans the packaging world, searching out answers to container problems that seem light-years away today.

If you're shooting for the moon in your packaging operation . . . or merely want down-to-earth counsel right now . . . call your nearby G-Man today.



**GAYLORD**  
CONTAINER CORPORATION

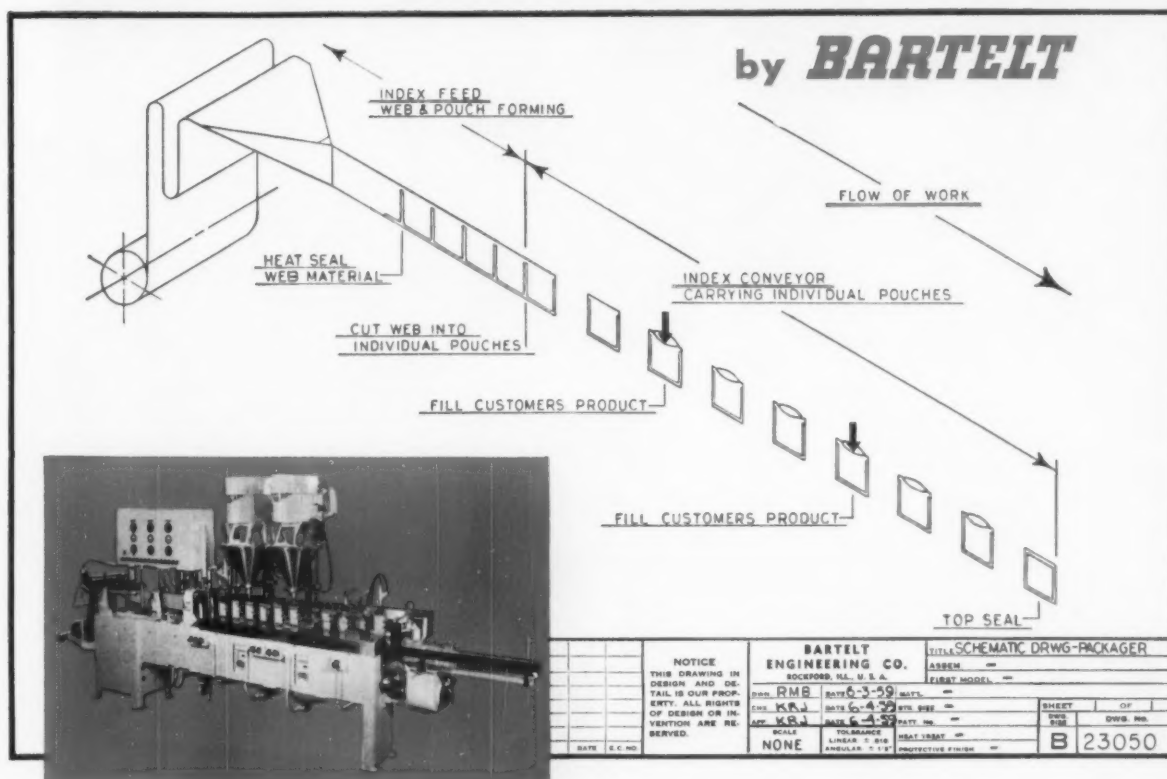


HEADQUARTERS, ST. LOUIS  
PLANTS COAST TO COAST

DIVISION OF **Crown Zellerbach Corporation**



## DESIGN FOR SUPERIOR FLEXIBLE PACKAGING!



## Horizontal Work Flow Provides Important Advantages in Fabricating High Strength Flexible Pouches...

Study the drawing above and the points listed below. *No other flexible packaging machine can provide you an operation with all these important advantages!*

- Study the drawing above and the points listed below. *No other flexible packaging machine can provide you an operation with all these important advantages!*
1. Forming of the web is *completed* prior to bottom and side sealing. Thus, no forming stress interferes with proper sealing . . . no built in pleats or tucks occur and superior seals are assured.
  2. Side and bottom seals are *set* before cut-off, pouch opening, or filling takes place . . . Seals cannot be weakened by product contamination, or stress caused by cutting, opening or filling while seals are hot and plastic.
  3. Filling takes place in a station designed for filling only. Thus, product contamination of cut-off knives, seal bars or other tooling is negligible. The only thing below the fill station is the stainless steel dust cover and spill chute.
  4. There are several stations available for the application of special tooling: cooling bars, perforating blades, partition seal bars, top fold mechanisms, tear string and saddle label applicators, die cutting tools as well as special filling devices.
  5. Top sealing also takes place in a position of its own, well removed from the filling operation to avoid seal contamination. The preceding few stations are free and available for paddling and pouch stretching so that the pouch is presented flat and ready for an undistorted top seal.
  6. This logical and practical sequence approach means that each operation not only has its own position, but its own mechanism designed for one operation only. The absence of complex double or triple duty mechanisms substantially reduces maintenance problems and costs while it increases operation efficiency.

**WHERE UNFAILING QUALITY COUNTS!**

**BARTELT ENGINEERING COMPANY**

1900 HARRISON AVE., ROCKFORD, ILLINOIS • NEW YORK, 370 LEXINGTON AVE., N.Y.C.


Coat by FREDERICA



**Magicote<sup>®</sup>** Brand  
NEW COATED  
BLEACHED SULPHATE BOARD  
with superlative printing surface  
for luxurious packaging.

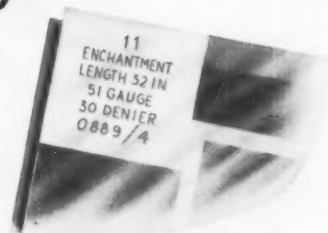
*May we send you samples for test runs?*

**Gilman Paper Company**  
3 Generations of Paper Making  
New York: 630 Fifth Avenue • Chicago: Daily News Bldg.





# Imprint specifications ... easily, cheaply



*Thousands of manufacturers save time, reduce packaging costs and wastes, by Tickometer imprinting.*

If your production involves a range of sizes, colors and weights, pre-printing the data on the assorted packages calls for careful estimating; and an expensive printing job that involves a high percentage of press down-time and frequent set-up changes. Then, you add a percentage of overrun for spoilage and accidents—even though most of the overrun may be wasted.

With a Tickometer, you buy only the basic packages—and imprint your specifications or designations, as required, by quick changes of Tickometer imprint plates. Speedily run off the quantity needed. Packaging can be prepared for daily production, special assortments, etc.

A Tickometer can handle a lot of packages in a hurry—imprints up to 1,000 pieces a minute. Gives a good impression on most standard weights and finishes of paper or light card stocks. Takes sizes as small as 1 by 2 inches, up to 15 by 15, depending on the model. Imprints up to 2-3/16 by 7/8 surface. Feeds and stacks automatically.

The Tickometer also counts—so accurately that banks even use it to count currency. Can make a predetermined count, register part and full totals; and with an accessory, do consecutive numbering.

Has many other applications; is used to mark, stamp, cancel, endorse or sign checks, cards, coupons, tickets, tags, sales slips, forms, etc. . . . with amazing time savings over hand work. The Tickometer can be rented or bought. And Pitney-Bowes service is available from 304 points.

Call the nearest PB office for a demonstration. Or send coupon for free illustrated booklet and case studies.



**Pitney-Bowes**

**TICKOMETER**

**Imprinting & Counting Machine**

*Made by the originator of the postage meter . . .  
offices in 121 cities in U. S. and Canada.*

PITNEY-BOWES, INC.  
4831 Walnut Street  
Stamford, Conn.



*Send Tickometer booklet and case studies.*

Name \_\_\_\_\_

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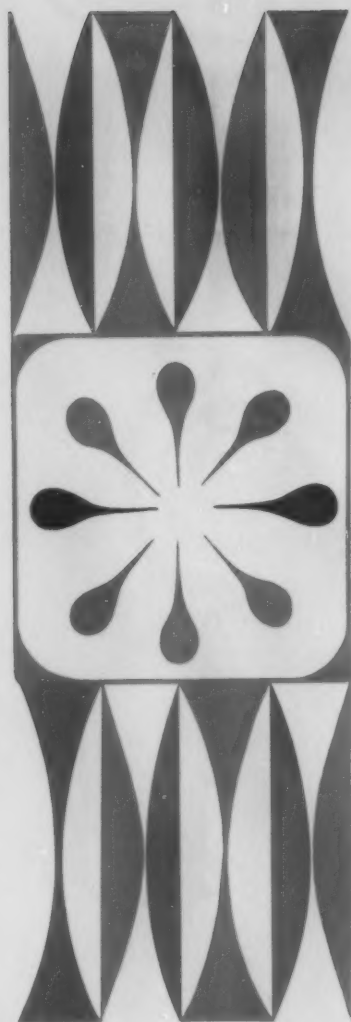
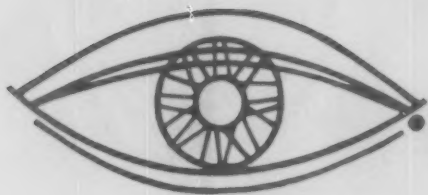
now, foil-wrapped  
to guarantee freshness!

WHATEVER THE JOB...

# PERMACEL®

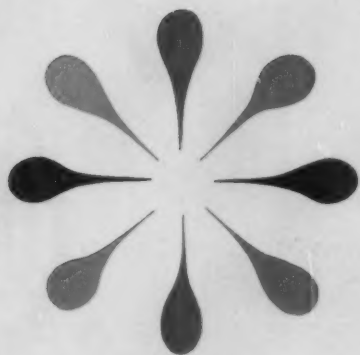
PERMACEL *New Brunswick, N. J.* TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

**STRONG  
BUY-  
APPEAL**



with  
soft  
sell

**Kromekote®**  
BRAND  
CAST COATED  
BOX WRAP



**Kromekote®**  
BRAND  
CAST COATED  
**BOX WRAP  
IN PASTELS**

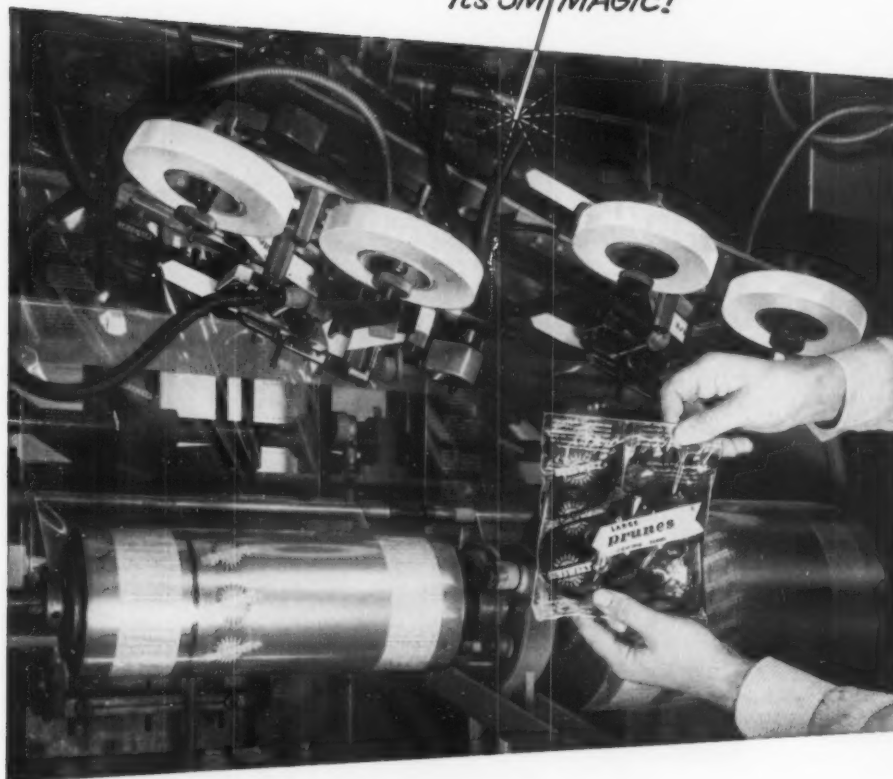
The visual impression a package makes is easily translated to its contents. If yours is a quality product, wrap it in the paper that tells your customers so —Kromekote® Cast Coated Box Wrap.

Its mirror-like surface, clear, light-fast colors, and excellent production qualities recommend it highly for modern packaging. Choose from these soft and pleasing shades of pastel blue, pastel green, pastel pink, pastel yellow, ivory and sparkling white.

**Kromekote®** BOX WRAP  
is made exclusively by

**THE CHAMPION PAPER  
AND FIBRE COMPANY**  
Hamilton, Ohio





## TAPEnology streamlines bag inventories with high-speed custom labeling!

Now California's Sunsweet Growers use *one* basic pre-printed film as bag stock for a wide variety of packaged fruits. Printed "SCOTCH" Brand Cellophane Tape lets them change a pack label just by changing the tape rolls.

Basic film stock is pre-printed with brand name and slogan only; bags are individualized for each specific product with form-cut strips of the tape printed on the adhesive side and applied to the inside surface of the film stock. Entire operation is automatic at high speed using a custom-built applicator designed with the help of a local tape printer-converter and 3M's Customer Engineering Service.

**What do you pack?** Chances are, the ingenuity and technical resourcefulness used in this Sunsweet operation can also help you find a better way to package—at higher speeds and with lowered costs. Ask your regular "SCOTCH" Brand Tape Distributor, or write: 3M Co., 900 Bush Ave., St. Paul 6, Minn., Dept. IAJ-129.

*When tape costs so little, why take less than "SCOTCH" Brand?*

—“SCOTCH” is a registered trademark for the pressure-sensitive adhesive tapes of 3M Co., St. Paul 6, Minn. Export: 90 Park Ave., New York 16, Canada: London, Ontario

**MINNESOTA MINING AND MANUFACTURING COMPANY**

...WHERE RESEARCH IS THE KEY TO TOMORROW



# CONTINENTAL *Landmarks*

*Periodic progress reports  
of interest and value to  
the chemical industry*

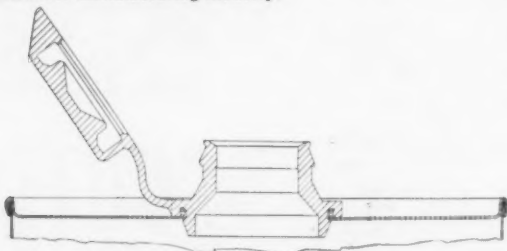
## New plastic "Flip Cap" with dripless pour spout outmodes soldered neck nozzles and screw caps

Three-and-a-half years of work at our Metal Division research and development center are behind Continental's new "Flip Cap" closure unit, on which patents are pending.

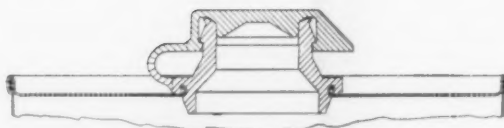
It combines a plastic, dripless nozzle with a captive cap, replacing the soldered screw neck nozzles in use for more than 25 years. Observers have called it one of the most important advances ever made in the pouring-type liquid container.

The "Flip Cap" is inserted into the top of the can *after* filling. This permits higher filling speeds through a larger opening. Elimination of the soldering process prevents solder splashes and flux marks, and permits full lithography on the top of the container. Tests indicate that the "Flip Cap" can be used for practically all liquids now packed in round or oblong nozzle-type cans.

Recognizing the specifications problem that confronts industries interested in benefiting by a new container development, Continental has made its "Flip Cap" captive-cap can available to the entire container-manufacturing industry.



**THE CAP** is permanently attached by a hinge. Can't be lost or switched. It holds back to permit free pouring, snaps into place easily and is liquid-tight. A variety of colors and shapes can be provided.



**APPLIED AFTER** filling, caps can be inserted automatically at 200 per minute. With full opening available—not diminished by the presence of a soldered screw nozzle—filling proceeds at a faster pace.

 **CONTINENTAL CAN COMPANY**

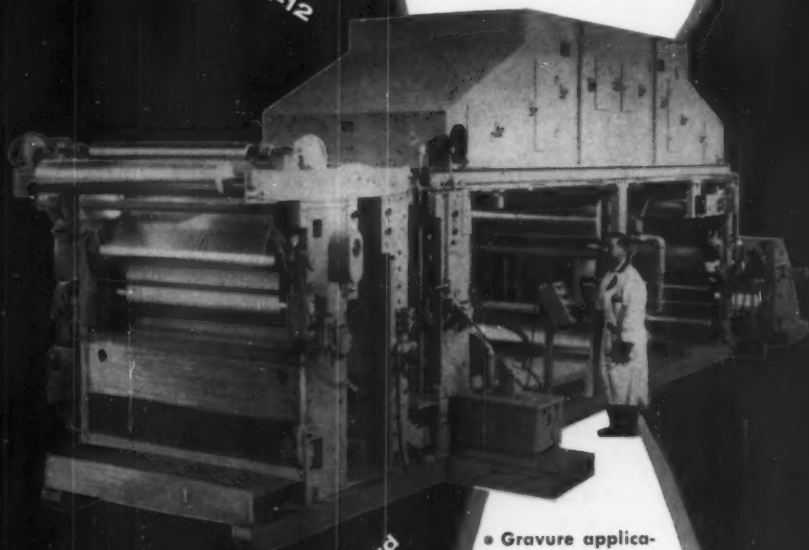
Eastern Division: 100 E. 42nd Street, New York 17  
Central Division: 135 So. La Salle St., Chicago 3  
Pacific Division: Russ Building, San Francisco 4  
Canadian Division: 111 Richmond St. West, Toronto  
Cuban Office: Apartado 1709, Havana, Cuba



All Purpose LAMINATOR Mark N-12

# New

## FLEXIBILITY IN LAMINATING



Combines film, foil or paper to paper or boxboard

- Gravure application of adhesive . . . fully flexible for use with wax, latex, resin or dextrine types
- All the accessibility of a walk-in gravure press
- Constant tension unwind units
- Large capacity gas fired tunnel drier made by OFFEN
- Slitting unit
- Speeds up to 1000 feet per minute . . . web widths up to 60 inches
- Short foil web lead

INCLUDES GRAVURE COATING OR  
PRINTING UNIT



A SYMBOL OF FINE CRAFTSMANSHIP

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ENGINEERING CORPORATION

A SUBSIDIARY OF MIEHLE-ROSS-DEYER INCORPORATED

2100 N. FARWELL AVE. • MILWAUKEE 2, WIS. U.S.A.

# Revolutionary New Frozen Fruit Package!



**Triple Treated.** Pak-in-Carton, produced by Western-Waxide, consists of a liquid-tight polyethylene pouch, a standard lock-tab folding carton and an overwrap with a coating containing polyethylene. Pak-in-Cartons cut packaging costs up to 35% over canisters.



**Seeing's Deceiving.** Both packages above hold 10 ozs. Notice how much larger the Pak-in-Carton appears! Pak-in-Cartons have 67% more display area than canisters. Extra display means more attractive packages and stronger brand identification for impulse buying!



**C-ZIP String.** Western-Waxide's special C-Zip tear string makes Pak-in-Cartons the easiest to open frozen food packages ever produced. Pak-in-Cartons without C-Zip can be opened with scissors or any other sharp instrument.

## Crown Poly\* Pak-in-Carton offers amazing consumer conveniences—gives packers 5 big savings over costly, old-style canisters:

In the past five years, consumption of frozen fruits and berries increased more than 50%. Yet, many packers knew this market should have increased even more. One possible reason was that their package was not as easy to use as other frozen food packages.

Nearly 95% of all retail frozen fruits and berries were packed in canisters. At the time, canisters were the most economical package providing complete liquid tightness. But with the advent of economical, liquid-tight polyethylene for packaging, experiments were undertaken to develop a new and more convenient package for fruits and berries.

As a result, Western-Waxide Division of Crown Zellerbach Corporation, San Leandro, Calif., now offers the Crown Poly\* Pak-in-Carton. Utilizing pouches of polyethylene film for complete liquid tightness, Pak-in-Cartons eliminate all the consumer disadvantages of canisters (see photos). And they provide these five savings for packers:

- 1. Cut Packaging Costs.** Using inexpensive polyethylene film made of Spencer Chemical Company's\*\* "Poly-Eth" Polyethylene, Pak-in-Cartons slash packaging costs up to 35% over conventional packaging.
  - 2. Cut Storing Costs.** All components of Pak-in-Cartons are stored flat or in rolls. Canisters must be stored with one metal end crimped on. Pak-in-Cartons require 83% less storage space.
  - 3. Cut Shipping Costs.** Pak-in-Cartons weigh 5% less than canisters. This adds up to big savings in freight costs.
  - 4. Cut Handling Costs.** Pak-in-Cartons stack easier than bulky canisters, and have no metal edges to scuff labels.
  - 5. New Labeling Flexibility.** Pak-in-Cartons may be stored indefinitely without overwrap, and then wrapped when sold.
- Spencer Chemical Company has pioneered in the development of polyethylene resins for frozen food packaging. For assistance in utilizing polyethylene for your requirements, contact Spencer Chemical Company.

\*Crown Poly is a registered trademark of Crown Zellerbach Corporation.

\*\*Spencer Chemical Company markets Spencer "Poly-Eth" Polyethylene, from which polyethylene film is made. Spencer "Poly-Pro" Polypropylene and Spencer Nylon. "Poly-Eth" and "Poly-Pro" are registered trademarks of Spencer Chemical Company.



**Speed Thaw.** In less than 10 minutes, Pak-in-Carton berries are thawed and ready to eat. Berries in canisters require up to two hours to thaw. Water can't seep through the Pak-in-Carton's polyethylene pouch during thawing.



# Poly-Eth



# Polyethylene

SPENCER CHEMICAL COMPANY, DWIGHT BLDG., KANSAS CITY, MISSOURI

for quality in chocolate—it's

# HERSHEY'S

for quality in labels and wraps—it's

# STRAWBERRY

# HILL PRESS



For years Hershey Chocolate Corporation has been a leading manufacturer of quality chocolate. It is natural that printing specifications for their labels be exacting, and in accordance with high quality standards.

As supplier of Hershey's labels, Strawberry Hill prints millions on its gravure presses each week. A careful quality control plan constantly checks color and press work while running and again before shipment.

With a large battery of five- and seven-color gravure presses, Strawberry Hill can handle your order for labels, wraps and soft cartons with speed and dispatch. We are specially geared to handle large volume under contract.

Our letterpress division's high speed 2- and 5-color presses print many types of fine color work—from package enclosures to catalogs.

Phone or write for a quotation. STRAWBERRY HILL PRESS, 23-02 49th Avenue, Long Island City 1, New York. *The leading source for gravure foil printing in New York City.*



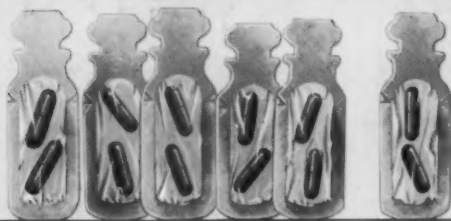
#### SOME STRAWBERRY HILL CUSTOMERS

Anheuser-Busch, Inc. • P. Balantine & Sons • The Borden Co. • Cities Service Co. • Colgate-Palmolive Co. • Charles Gulden, Inc. • Hershey Chocolate Corp. • Lever Brothers Co. • P. Lorillard Co. • Benjamin Moore & Co. • Philip Morris Inc. • National Distillers & Chemical Corp. • Parsons Ammonia Company, Inc. • Pepsi-Cola Company • The Procter & Gamble Co.

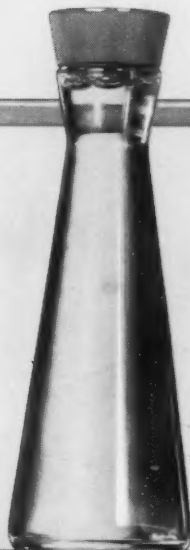
Ivers-Lee ... a company of people, plants and Ideas ...



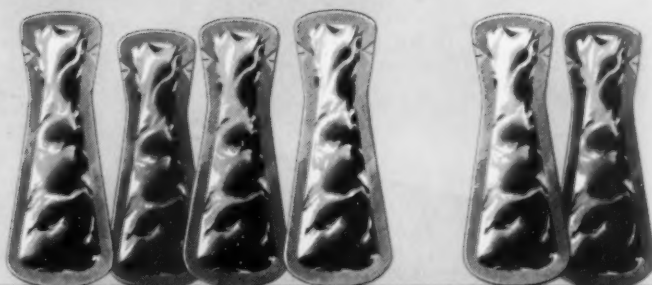
# pharmaceuticals,



# foods,



# cosmetics



## ...unit-packaging sells them faster!

IL created packages, machines  
and methods fully covered by  
U.S. and foreign patents.

No matter what product you sell—solids, liquids or powders . . . Ivers-Lee Unit-Packaging sells it faster, saves time and money for you and your customers. Each convenient Unit-Package contains just enough for one dosage, application or meal—and these individually-sealed, sanitary flexible film Unit-Packages continue to lock in every bit of potency, freshness or flavor until the moment they're used.

You can virtually guarantee that your products will be easier to handle, absolutely sanitary, and factory-fresh, no matter where they go.

For any product, in any industry, nothing beats the convenience and economy of Ivers-Lee Unit-Packaging. Call your Ivers-Lee account man today!



# Ivers | Lee Co.

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Ivers-Lee Company (Canada) Ltd., Brampton, Ontario



# AVISUN\*

\*a trademark of AviSun Corp.



# AviSun *OLEFANE*

(POLYPROPYLENE FILM)



In 1 through 3 mil thickness AviSun Olefane is clear as crystal. Its gloss is sparkling . . . its "feel", warm and pleasant. Just the right flexure, too . . . neither limp nor too stiff. This adds up to instant sales appeal.



more

**RESISTANCE TO GREASE AND CHEMICALS**—AviSun Olefane resists attack and penetration by oil, grease, chemicals and solvents . . . ideal for liners, pouches. Excellent odor barrier, keeps flavor and aroma in—odors out.

more

**HEAT RESISTANCE**—Olefane can be boiled . . . even sterilized at 230-250 degrees F. This extra heat resistance assures high temperature dimensional stability . . . opening many new film applications for you.

more

**SHELF LIFE**—Olefane is unaffected by changes in humidity . . . doesn't absorb moisture. Even after long storage under adverse atmospheric conditions, AviSun Olefane maintains its dimensions—and *does not become brittle.*

# gives you **more**

**more  
FILM PER POUND**

Never before such high yield. Olefane's low (0.89) density gives you 31,000 sq. in. of 1 mil film per pound. A bonus of up to 50%! A real opportunity for more profitable packaging operations.



**more  
TEAR STRENGTH**

AviSun Olefane resists tearing and has high tensile strength—stronger wraps from thinner gauges. Good abrasion resistance maintains high gloss and transparency... protects goods longer. (Conversely, the film can be made to have directional tear for easy opening when desired.)

## **...AND ITS MACHINEABILITY IS EXCELLENT**

Because of its higher stiffness, Olefane performs at advantageous speeds on machines designed for other thermoplastic films. No new or rebuilt machinery needed.

*For more information mail coupon on next page...*





## AVISUN INHERITS A RICH TRADITION!



### AVISUN

#### AMERICAN VISCOSE CORPORATION

**PRODUCTION KNOW-HOW**—First synthetic fiber producer in America. Long experience in production of films and fibers.

**CUSTOMER SERVICE**—Large, complete film evaluation laboratory. Knowledge and experience in packaging machinery.

**MARKETING KNOW-HOW**—Many years of successful merchandising experience in the flexible packaging industry.

**RESEARCH**—Several years of major research specifically on Polypropylene film.

#### SUN OIL COMPANY

**RAW MATERIALS POSITION**—Low cost olefins readily available because of company ownership of oil wells, ships, pipe lines and refineries.

**PROCESSING KNOW-HOW**—Years of leadership in catalysis and the processing of hydrocarbons.

**KNOWLEDGE OF MARKETS**—Wide marketing experience in wax for wax paper, and hydrocarbons for rubber.

**RESEARCH**—Several years of major research on the manufacturing of Polypropylene.

**Only AviSun is backed by such distinguished double resources**

**TECHNICAL EXPERTS AT YOUR SERVICE**—Through our Customer Service Departments, the experience and know-how of both Sun Oil Company and American Viscose Corporation are available to you. AviSun Technical Specialists will gladly answer your specific questions about Olefane . . . and provide advice and assistance in planning, market research and running Olefane on your present thermoplastic film machinery. Write, wire or phone today.

**CUSTOMER SERVICE** • AviSun Corporation, Post Road  
Telephone, HUBbard 5-1151      MARCUS HOOK, PA.

AVISUN Corporation  
Post Road, Marcus Hook, Pa.

Please send me latest complete information covering Olefane  
Polypropylene film.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

POSITION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

MAIL THIS COUPON FOR LATEST INFORMATION COVERING



**AVISUN Olefane**

**Polypropylene Film**

# Background for Packaging

**Always a good index** of packaging activity, it is interesting to note the forecast by *Fibre Box Assn.* economists that demand for corrugated shipping containers will double in the next 15 years. Figures show 1959 shipments 11% above last year and the prediction for 1960 is for another 5% gain. Since virtually all packaged goods are shipped in corrugated containers, the indications for packaging in general are excellent.

**There is a lesson** for packagers in a new study of impulse purchases in supermarkets. Made for the *Point-of-Purchase Advertising Institute*, the survey shows that 34% of shoppers' buying is unplanned, ranging from 18% for coffee to 38% for bakery products. POPAI finds that retailers can increase unplanned sales 41% by using point-of-purchase materials, another reminder to packagers that volume can be substantially influenced by packaging that attracts the shopper's eye.

**A long shot** on clearance under the new *Food Additives Amendment* has paid off for at least one manufacturer of packaging chemicals who discovered that his plasticizer-stabilizer is identical to a substance cleared under a prior sanction. This coincidence permitted testing and legal work to be accomplished in only six months. While it is undoubtedly easier to obtain this type of approval for a single chemical than for a complex packaging material, the odds are heavy against any manufacturer hitting the mark.

**Retailers and packagers** of products sold in food stores are intently watching progress of a suit by three big meat packers to void a 30-year-old ruling that denies them the right to deal in other foods and to operate retail outlets. Citing revolutionary changes in the American food-distribution system which they contend obviates any advantages they might have enjoyed, *Swift*, *Armour* and *Cudahy* want a modification of a U. S. consent decree that since 1920 has forbidden them from distributing or dealing in some 140 food and non-food products and from owning and operating retail meat markets.

**Observe the trend** toward shipment of many big-volume consumer items in open corrugated trays, rather than closed containers. Not only does the tray serve adequately in many pallet loadings—depending upon the type and weight of the unit package—at a major saving in corrugated board, but several supermarket chains are intensely interested in the system of tray stocking in stores, pioneered by *Jewel Tea* (see MP, April, 1959, p. 179). *Kroger*, *Food Fair* and other chains are demanding this type of container and such big packagers as *Campbell Soup*, *Kraft Foods* and *Jell-O Div. of General Foods* reportedly will cooperate, using newly developed tray-wrapping machinery.

**Price marking** of packaged products by manufacturers is a lively issue. Many packagers queried for our Sounding Board this month (p. 65) were reluctant to take sides on the question and several cited strict company rules against any comment on this subject. One leading drug manufacturer has just authorized a major study of pre-pricing practices. Greatest hurdles to more widespread use appear to be union resistance to elimination of a job for store clerks and retailer resentment over less freedom in setting price, despite the fact that [Continued on page 42]

Notes, quotes and

comments. An

editorial feature

New recipe for  
pasta packagers.....





# ..... BRITE-PAK ENAMEL COAT

Look to a leader for leading ideas. Kraft Foods, *nonpareil* in its field, stays ahead in the packaging of pasta with sanitary Brite-Pak Enamel Coat bleached board.

To food packagers, Kraft Foods' reasons for using Enamel Coat make sound sales sense:

Snow white on both sides and all the way through, a carton made of Enamel Coat really looks *sanitary*. Compare it with the old-fashioned container and its dull, gray interior that looks so uninviting — *especially next to the product!*

Enamel Coat keeps on selling when it's taken from the store. At home, its beautifully clean look invites continued purchase.

And for brilliant full color process printing that brings product illustrations to life, Enamel Coat's gleaming surface is unsurpassed.

The big surprise is that this outstandingly white bleached board is so economical!

See how you can upgrade *your* packages . . . and still save money.

For full details, write to Bleached Board Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N. Y.



**West Virginia  
Pulp and Paper**



pre-pricing saves a costly in-store task. (For a detailed study of this question see MP, Sept., 1959, p. 99.)

**Hangover headaches** from the fancy-decanter binge, which liquor distillers seem unable to get away from, still trouble the industry. The latest approach is an appeal to retailers at least to make proper promotional use of the estimated \$20 million which the industry is spending this holiday season on gift packages. Stores are being asked not just to put it on the shelf, but to participate through direct mail, local advertising and store displays—and to play up the gift package not merely for the holidays, but year round. An estimated 5,000,000 cases of decanters shipped this season must be disposed of.

## Background

for

## Packaging

**Non-food products** attractively packaged for impulse sales in supermarkets may be in for a packaging overhaul now that *Universal Match Corp.* plans to develop automatic vending machines for such articles as cosmetics and dry goods in food and drug stores. Meanwhile, Universal has introduced a new paper-money-changing machine that will handle up to \$9 in bills. It's designed for use with vending equipment.

**Credit packaging** with giving birth to a big new business—plastic blow molding. An extensive study by *Modern Plastics* shows 80 companies in the business today compared with no more than seven until 1957 and almost 400 machines in use, 75% of them by a half-dozen large blow molders tied in with large-volume packaging applications. Two years ago these six companies owned all the machines. Thus, from packaging, blow molding has moved into toys, housewares, automotive parts and industrial components.

[Continued from page 39]

**Russia's lag** in packaging is obvious to recent visitors. Generally, the Soviet Union is said to be 40 years behind us in the packaging preservation even of such essential products as foodstuffs. The *Malayan Tin Bureau* estimates that Russia produced 4.1 billion standard cans of canned goods last year—which was more than double its 1957 total. By comparison, the U. S., with a population smaller than that of the USSR, consumed 42 billion No. 2 cans last year.

**Soft-goods manufacturers**, increasingly packaging conscious, are finding a growing market in variety stores, for many years a packaging-conscious retail group. Appeal is a must to build traffic in these outlets, says *Variety Store Merchandiser*, pointing out that Woolworth has added apparel and soft-goods departments in about 50 stores, devoting 35% of the total sales areas in these stores to soft goods. Trouble-free, self-sell packaging of soft goods is a must for chains like Woolworth and Kresge; what they find acceptable would be well worth study.

**Big economy size** has increasing appeal for today's careful but well-heeled shopper. An *A. C. Nielsen* study of 12 brands of major commodities sold in food stores shows that in two years large sizes advanced from 52% share of market to 64% in one product class and from 31% to 39% in another. In a third group, 10- and 15-lb. sizes together increased from 47% to 56% in the same period at the expense of 2- and 5-lb. packages.

**Business stabilizer** not to be overlooked is *Social Security*. About 13.4 million Americans now get S.S. checks every month, as against one million in 1945 and three million in 1950—and the number grows every month. Small as they may seem individually, these checks continue whether business is good or bad, whether few persons or many are working. And since they are apt to go for food and other packaged goods of an essential nature, packagers are the big ultimate beneficiaries.

L'Oréal of Paris says,

“*fraicheur est fragile*”

**print-a-tube  
poly/cello  
preserves...  
protects...**

“Freshness is fragile,” says Cosmair, Inc., makers of L'Oréal of Paris bleach, a hygroscopic powder for milady's hair. Preferred by beauticians in more than 44 countries, it is attractively packaged in convenient, single-application Print-A-Tube Poly/Cello pouches.

L'Oréal bleach powder is protected against moisture, caking, and deterioration by durable, fully visible Print-A-Tube Poly/Cello . . . and guaranteed to exceed two years of shelf-life. Excellent heat sealing qualities insure easy machinability on automatic packaging equipment.

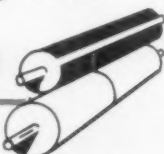
Protect the fragile freshness of your product — drugs, foods or toiletries — with Print-A-Tube Poly/Cello. Write for further details or send samples of your product for test packaging.



Write for **FREE 32-page Packaging Machinery Manual.**

**print-a-tube**  
COMPANY

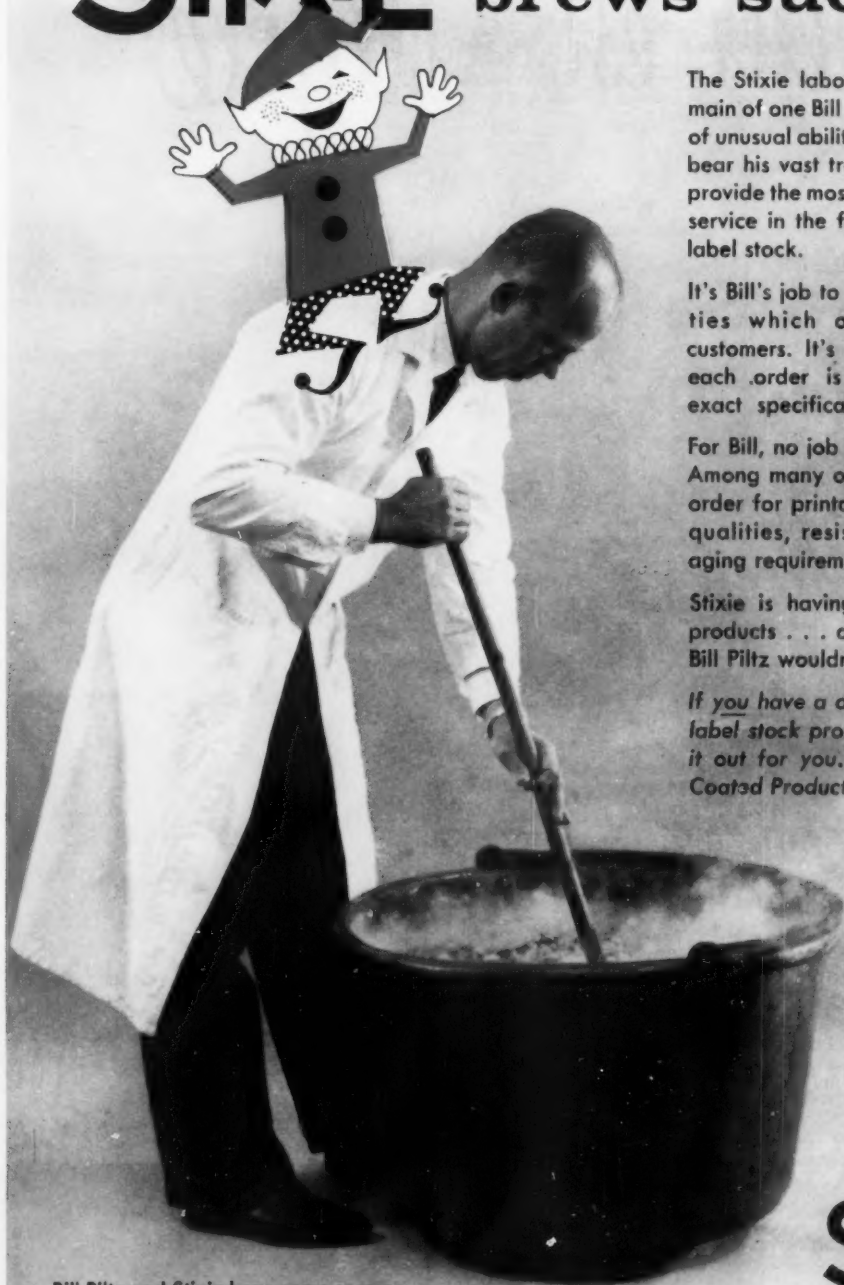
143 E. RAILWAY AVE., PATERSON, N. J.



Extrusion-coated foil and films for automated packaging of liquids, solids and powders.

P.O.M. (Poly-on-Mylar), POLY/CELOPHANE, CELLO-POLY-CELLO, P.O.M.V. (Poly-on-Mylar Vacuumized), POLY/POUCH, POLY/FOIL, etc.

# "STIXIE" brews success



Bill Piltz and Stixie brew some success.

The Stixie laboratory is the private domain of one Bill Piltz, a chemical engineer of unusual ability. In the lab, Bill brings to bear his vast training and experience to provide the most comprehensive technical service in the field of pressure sensitive label stock.

It's Bill's job to solve the sticky perplexities which often confront Stixie customers. It's his job, too, to see that each order is filled to a customer's exact specifications.

For Bill, no job is too small . . . or large. Among many other things, he tests each order for printability, strength, adhesive qualities, resistance and government aging requirements.

Stixie is having great success with his products . . . and so are his customers. Bill Piltz wouldn't have it any other way.

*If you have a difficult, pressure sensitive label stock problem, call on Bill to work it out for you. Just drop him a line at Coated Products.*

**STIXIE**  
*pressure sensitive products*

**COATED PRODUCTS, INC.**

275 LINCOLN BOULEVARD • MIDDLESEX, NEW JERSEY • ELLIOT 6-3700





# POLYDON

## CUT PACKAGING COSTS SIMPLIFY PACKAGING OPERATIONS

PG POLYDON — Lowe's printable, glueable polyethylene — is combined with RIDGELO white and colored folding boxboards to open exciting new packaging possibilities and economies. This unique packaging material eliminates need for outer and/or inner wraps, and is applicable to a huge range of products that require moisture, grease and chemical barrier protection. These include frozen foods, fresh vegetables, bakery goods, fresh flowers, pet foods and countless others. PG Polydon very possibly represents profitable new answers to your packaging problems. If you'd like to find out, write or phone our PG POLYDON Division.

**LOWE PAPER COMPANY** Ridgely, N.J.

REPRESENTATIVES / Detroit—Joseph P. Giroux / Los Angeles—Norman A. Buist / Philadelphia—Philip Rudolph & Son, Inc. / St. Louis—A. E. Kellogg

Perhaps you've heard about it  
here are **THE FACTS**  
The new "visible product" display



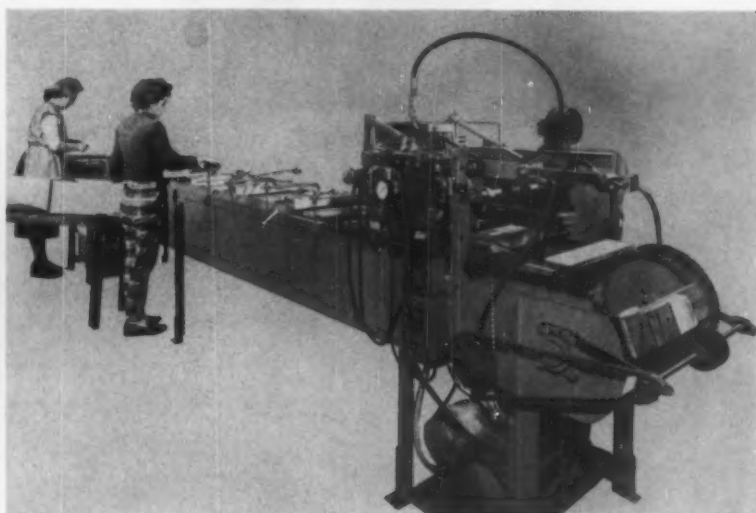
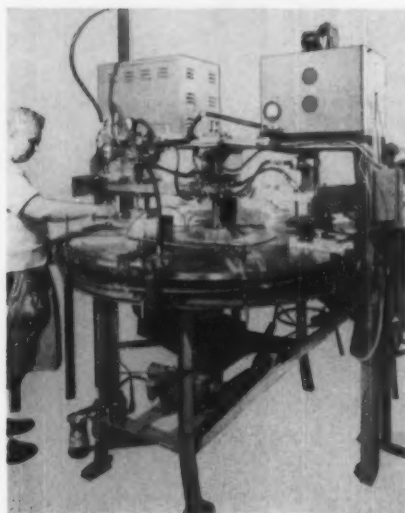
The transparent film surrounding the "Cutex Mira-Base" bottle enables it to be completely visible while the package also provides an effective seal for the product and discourages pilferage. Other types of STRETCH-PAK\* display packages are shown at right—from top to bottom, Lehn & Fink Products

Corporation, Chesebrough Pond's Inc., Northam Warren Corporation. This package development and patent applications thereon are jointly owned by The Nevins Company and William B. Crane. All packages pictured were printed, manufactured and custom packaged by The Nevins Company.

...or even seen it by now!

on **STRETCH-PAK\***

packages already in production



PATENTS PENDING

The operating machines pictured above have produced over 1,000,000 of the packages shown in this advertisement. These machines are a development of and are owned by *The Nevins Company*. All information in connection with the STRETCH-PAK\* display packages and the above machines for packaging may be obtained from The Nevins Company, Clifton, New Jersey.

\*A trademark owned by The Nevins Company.



**THE NEVINS COMPANY**

EXECUTIVE SALES OFFICES AND PLANT, CLIFTON, NEW JERSEY. PRESCOTT 9-1700

SINCE 1902 DESIGNING, PRINTING AND MANUFACTURING PRECISION FOLDING CARTONS, DISPLAY CONTAINERS AND MULTICOLOR LABELS

for real performance / economy



# FLEXOGRAPHIC

inks for boxboard

When you use a select S&V flexographic ink you increase production and eliminate performance problems ... because each S&V ink is specifically constructed to give you superior, economical results. Whether you require a water, or spirit soluble formulation, S&V will meet your requirements with a flexographic ink that can't be beat for—

- MORE INK MILEAGE
- OUTSTANDING PRESS STABILITY
- GREATER DURABILITY
- HIGHER GLOSS AND OPACITY
- EXCEPTIONAL COLOR STRENGTH

Next time you go to press,  
try one of S&V's flexo inks for boxboard.

FLEXENE, SUPERFLEX, AQUAFLEX and DUAFLEX flexo inks are performance proven to give outstanding results on a wide range of other surfaces. You will benefit from their built-in performance economy.

**Sinclair and Valentine Co.**

DIVISION OF AMERICAN-MARISTTA COMPANY

611 WEST 129TH STREET, NEW YORK 27, N. Y.

Canadian Affiliate: Sinclair and Valentine Co. of Canada, Ltd.

240 Madison Avenue, Toronto 7, Canada

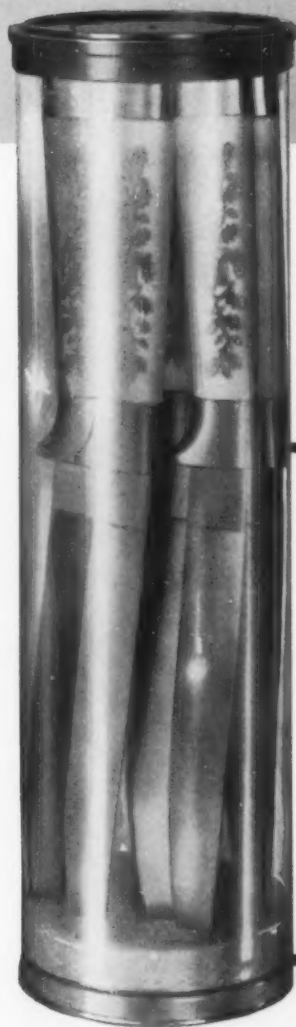


crystal clear

CLEARSITE® containers

in new 2½" diameter size

... any depth required



- give your product this added appeal
- protect it ... display it
- sell it in greater volume

New Clearsite 2½" Container is a thin wall, flexible extruded container ... is crystal clear ... will not crack or tear ... has no seams and a reinforced bottom.

Clearsite 2½" containers are available in any length desired ... can be multi-color printed if desired.



Ideal for samples.  
Protects small  
mechanical and  
electrical parts,  
components and tools  
in the plant or on  
production lines.



The perfect container for  
irregularly shaped items.  
Makes possible easy  
shelf storage or stacked  
counter display.



Eliminates duplicate  
labeling ... particularly  
for serums and other  
pharmaceuticals which  
require outer protection.

**USES UNLIMITED**—Clearsite is the perfect outer package for countless products ... retail or industrial. Clearsite reveals your product's identity, its features and beauty ... helps keep it moving in production or sales channels.

THE WIDEST VARIETY OF STOCK PLASTIC  
JARS AND VIALS AVAILABLE ANYWHERE



**CELLUPLASTIC CORPORATION**

24 Commerce Street

Newark 5, New Jersey

**CELLUPLASTIC CORPORATION**

24 Commerce Street, Newark 5, New Jersey

Gentlemen:

Dept. 549

I'm interested in the improved packaging possibilities  
that the new 2½" diameter Clearsite container offers.

Please:

Send a sample. .... inches deep to package. ....

Have a representative call

Name.....Title.....

Company.....

Address.....



## Show More... Sell More... Save More...

*The Ludlow line of versatile cast-processed films:*

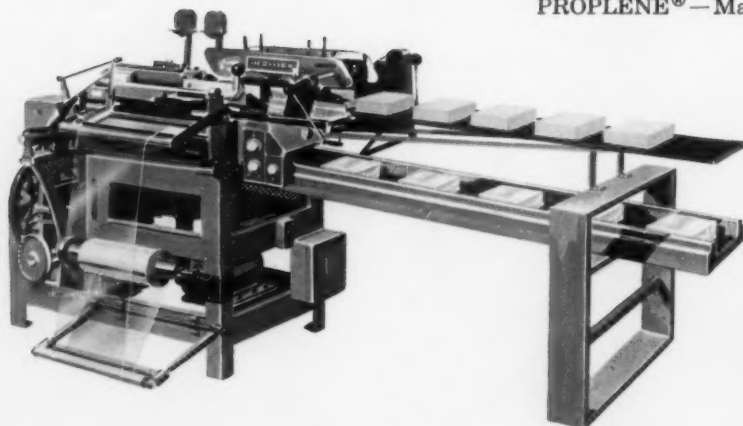
ORTHOPLENE® — Type I (low-density) polyethylene

METAPLENE® — Type II (medium-density) polyethylene

PARAPLENE® — Type III (high-density) polyethylene

CAPLENE® — Made from nylon-6

PROPLENE® — Made from polypropylene



Converting Superintendent Carl Davis at Vanity Fair says: "I'm interested in production efficiency. METAPLENE is the first poly I've seen with sufficient rigidity to give top machineability. At the same time, it has that soft feel that keeps our sales department happy." VANITY FAIR dinner napkins are over-wrapped on a Hayssen Napkin Wrapper. New 4-Roll Bathroom Tissue pack is over-wrapped on a Battle Creek #475 Series.



## with METAPLENE® Cast Poly Overwrap

Your product is on its own when it reaches the dealer's shelf . . . and it has plenty of competition. Give it that extra boost by overwrapping in clear, sparkling METAPLENE, the cast polyethylene film that protects profits as well as products.

Nationally-known VANITY FAIR joins a growing number of enthusiasts for medium-density METAPLENE. VANITY FAIR switched from cellophane to METAPLENE when they found that lower-priced METAPLENE has all the sparkle, clarity and machineability of cellophane, *plus* longer shelf life.

Printability? Milprint, Inc., designer and printer of this eye-catching overwrap, discovered that METAPLENE has excellent printing qualities — even with hard-to-print metallic inks.

Get complete information on METAPLENE and other new Ludlow cast films. Write today for samples and technical data. LUDLOW PLASTICS, NEEDHAM HEIGHTS 94, MASSACHUSETTS.



Ludlow Plastics is a division of LUDLOW PAPERS, INC., manufacturers of flexible packaging materials and specialty papers. Ludlow Papers, Inc., is a subsidiary of Ludlow Manufacturing & Sales Company, manufacturers of jute and flax products.

**The Heat's On**  
*precisely . . . under  
the dependable control  
of Fenwal Standard Thermoswitch® Units*

Key step in the manufacture of milk cartons on Pure-Pak carton-forming machines is the heat-sealing of the bottom flaps. For eight years this manufacturer has used Fenwal Series 17000 THERMOSWITCH units for temperature control of this vital operation. Result: eight years of precise troublefree control. *That's time-tested performance!*

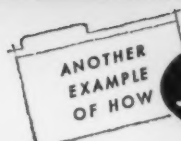
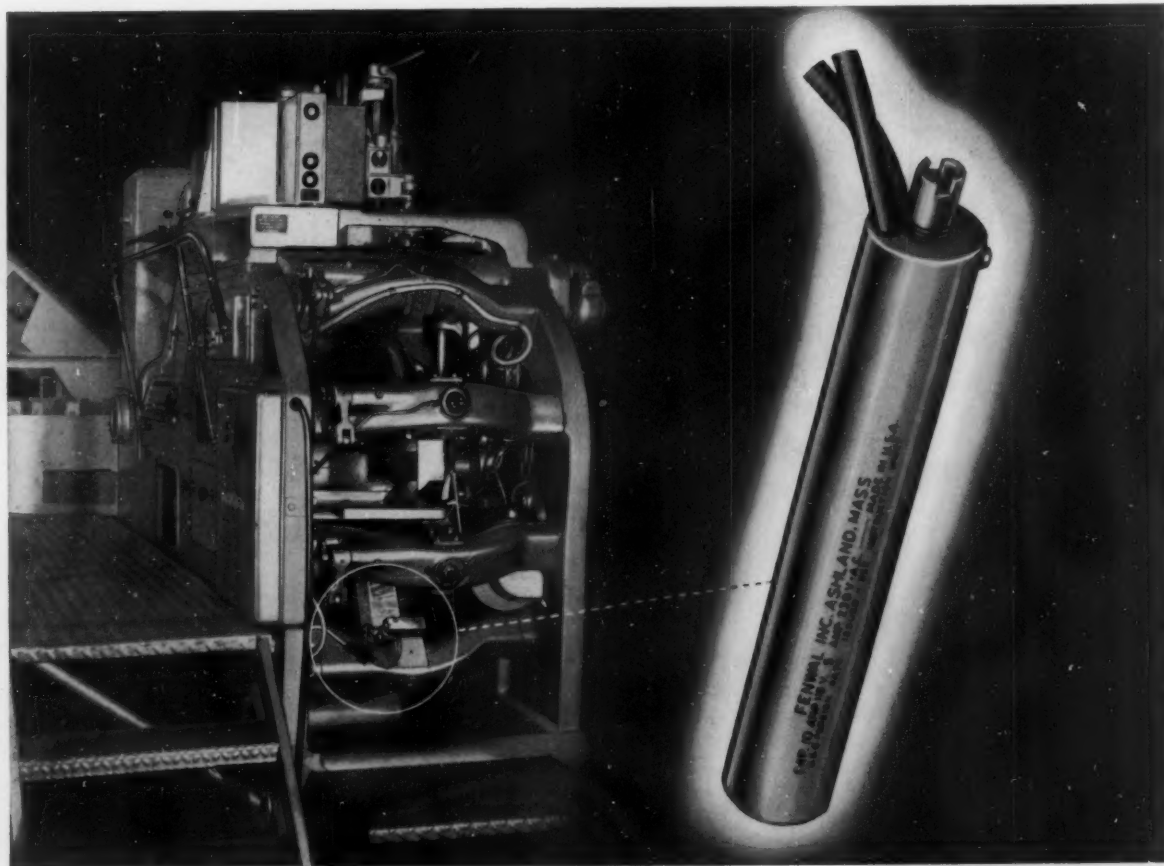
It's typical of the hundreds of successful installations of immersion and surface-mounted THERMOSWITCH units . . . in tanks, vats, air ducts . . . for widely varying space and position requirements . . . under the severest conditions of shock, vibration, and corrosion. *They're standard units with truly special capabilities!*

Yet for all their ruggedness, THERMOSWITCH units are sensitive to temperature changes of only a fraction of a degree. Heat sensitive outer shell responds instantly and accurately. *No thermal lag . . . no control error!*

Use these versatile units for control applications from -100 to +1100°F. They're completely adjustable with current ratings up to 10A-115VAC.

For complete details, write Fenwal Incorporated, 74 Pleasant Street, Ashland, Mass.

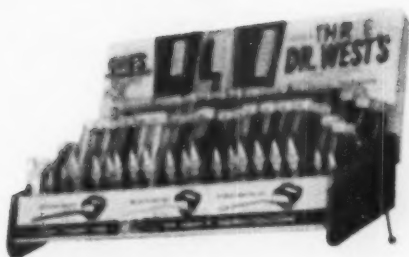
Compact, totally-enclosed Fenwal THERMOSWITCH units provide positive, service-free control of heat-sealing operation on this Pure-Pak carton-forming machine.



**Fenwal**

CONTROLS TEMPERATURE . . . PRECISELY





**how  
does  
your  
product**

**Stand out**

**in the crowd?**



Dr. West's new toothbrush packaging by TULOX is, indeed, a standout in one of the toughest and most competitive of markets. It is also an excellent example of TULOX skill in creating a new and complete packaging concept to meet special marketing and merchandising needs.

The TULOX Dr. West container is like nothing else in the field . . . it has sparkling, crystal-clear beauty that will NOT "cloud" or crack . . . it has more than ample rigidity for the "feel" of quality, yet is light in weight . . . it is fitted with a unique TULOX creation in caps for bold brand identification that defies hiding in displays.

Furthermore, this new packaging concept has been developed for Dr. West on a cost basis that is tightly competitive in a field where competition is a fine art.

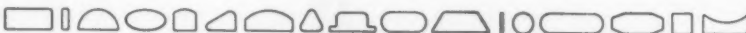
Perhaps we can meet your special needs with equal success. Why not send us samples for study?

**TULOX**

**EXTRUDED PLASTICS, INC.**

General Offices: Norwalk, Connecticut • Plants: Norwalk, Connecticut • Marion, Indiana

Semi-Rigid Seamless Plastic Packages



SEP59

*Birds Eye Green Peas . . . best known waxed paper overwrap in the frozen food field . . . is produced in four colors by four different printers . . . from Intaglio cylinders.*



## Duplicate cylinders —for 4 different printers!

The familiar Birds Eye Green Peas waxed paper overwrap is printed in gravure by four printers, from duplicate sets of cylinders engraved in New York by Intaglio Service.

The biggest packer in the frozen food field is assured of uniform wrappers from different printing plants by using Intaglio cylinders. And gets as many as 81,000,000 Birds Eye wrappers from a single set.

Intaglio, specialist in fine gravure for packaging, has developed craft techniques which help your wrapper or label to stand out at the point of sale . . . make friends and customers for your product.

Intaglio cylinders are precision-etched by skilled craftsmen for best reproduction on paper, board, vinyl, cellophane, foil or other materials. And have a longer life,

produce more impressions, than electros.

Intaglio is easy to use. We start with the original art, layout, text proofs—and deliver cylinders in as many sizes as required. And supply high-fidelity proofs for the guidance of the printer.

For better packages, and better sales, many leading mass product manufacturers have turned to gravure—and Intaglio.

WITH more than 500 skilled personnel (35% on Intaglio's staff ten years or longer) . . . four entirely new plants in the past three years . . . conveniently located to facilitate service in New York, Chicago, Detroit, and Cincinnati . . . Intaglio merits your choice for the best in packaging or publication gravure.

Our seven offices are at your service.



## Intaglio Service CORPORATION

*America's First Gravure Servicers*

305 East 46th St., New York, New York—1828 Lewis Tower Bldg., Philadelphia—  
731 Plymouth Court, Chicago—40 Hague Ave., Detroit—369 Pine St., San Francisco—  
1932 Hyperion Ave., Los Angeles—126 West McMicken Ave., Cincinnati



Q

: And what else do you associate with STAN-PAK?

Importantly...

## FOIL and FOIL PACKAGING

STAN-PAK™ offers you single-source convenience. Film, foil, paper and board. Laminations. Sheet and roll stock. Bags, pouches, boxes, sleeves. Labels. Lining materials. Inner and outer wraps. Vacuum and controlled atmosphere packaging. Special purpose containers. Nineteen mills and manufacturing plants. Sales offices throughout the United States.

*Birds Eye Green Peas . . . best known waxed paper overwrap in the frozen food field . . . is produced in four colors by four different printers . . . from Intaglio cylinders.*



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Q

: And what else do you associate with STAN-PAK?

Importantly...

## FOIL and FOIL PACKAGING

One of the many areas in which STAN-PAK can help you get packaging mileage. Now one of the country's largest integrated packaging manufacturers, Standard Packaging offers you a comprehensive service, national in scope. Capacity . . . both manufacturing and creative. Representatives who know their business . . . and regard it as a privilege to study yours. STAN-PAK: a good company to know, and depend upon.



**STANDARD PACKAGING Corporation**  
America's fastest growing  
packaging source

Executive offices:  
200 East 42nd Street,  
New York 17, N. Y.

### Subsidiaries:

Fonda Container Co., Inc.  
St. Albans, Vt.  
Standard Cap & Seal (Canada) Ltd.  
Burlington, Ontario, Canada

### Divisions:

Allegheny Label Division  
Cheswick, Pa.  
Bradley-Gilbert Folding Box Division  
Louisville, Ky.  
Chemical Fine Paper and Board Division  
Holyoke, Mass.  
Closure Division  
Chicago, Ill.  
Eastern Fine Paper and Pulp Division  
Bangor, Me.

Flexible Packaging Division  
Clifton, N. J.  
Fuller Label & Box Division  
Pittsburgh, Pa.  
Gebhart Folding Box Division  
Dayton, Ohio  
General Felt Products Division  
Brooklyn, N. Y.  
Johnston Foil Division  
St. Louis, Mo.  
Missisquoi Division  
Sheldon Springs, Vt.  
Modern Packages Division  
Los Angeles, Calif.  
National Metallizing Division  
Trenton, N. J.  
Royal Lace Paper Division  
Brooklyn, N. Y.



## Equipment & Materials

### Plastic packages made without heat, glue

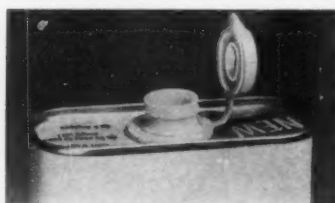
R. A. Jones has developed what it claims to be the first automatic machine to form sheet plastic into tray packages without the application of heat or adhesives. The resultant containers, says the company, are low in cost and combine the advantages of protective rigidity and full product visibility. Called Plasti-Lok, the new machine cold-folds and locks unscored, die-cut plastic (polystyrene or other) blanks into trays at reported speeds of 40 to 100 per minute. Jones reports that the new machine was developed in cooperation with Monsanto Chemical Co. and Charles E. Palmer & Associates, using Plax Corp.'s Polyfilix oriented-polystyrene sheeting as the packaging material. Heart of the package-forming operation is the cold-folding principle, which essentially is a method of confining the material to prevent cracking or crazing while it is being folded, and permitting it to resume its stability after the package is locked. The supplier says that this technique is faster and less costly than heating and forming plastic sheet. *R. A. Jones & Co., P.O. Box 485, Cincinnati 1.*

### New producer of polypropylene

Eastman Chemical Products reports the start-up of commercial production of polypropylene on a limited basis at the Texas Eastman Co plant in Longview, Tex. The material will be marketed under the Eastman family trade name, Tenite. It is being made in grades for extrusion and molding in natural and colored formulations. *Eastman Chemical Products, sub. Eastman Kodak, Kingsport, Tenn.*

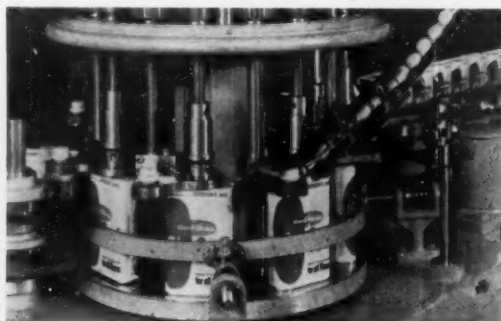
### Plastic nozzle and insertion means

A joint development in the construction and insertion of a captive polyethylene nozzle and cap for round or oblong cans has been made by Continental Can and Consolidated



Packaging Machinery. The new "Flip Cap" (see photo at left) was developed by Concan for increased speed in filling and closing "F" style cans for floor wax, insecticides and other liquid

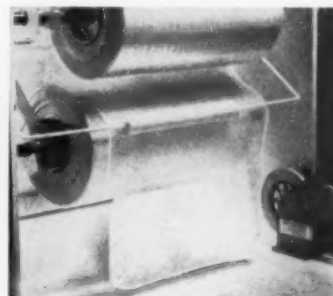
products. The can cap is permanently attached to the nozzle by a polyethylene hinge strap that protects against loss or loosening of the cap. The new plastic closures are automatically inserted into a specially curled perforation in the top of the can, using a modified model of Consolidated's Model D-8-F eight-spindle capping machine (see photo below). It is a continuous-motion rotary unit that is re-



ported to operate at high speed. Closures are gravity fed down a curved incline and are picked out by a moving cap arm, which then swings back to center the cap under the chuck. The chuck turns the closures so the hinge strap and lifting tab bear against vertical stops, then inserts the closure into the cans. Among the advantages cited for the new plastic cap-and-nozzle are lower cost and the fact that it permits the top of oblong cans to be lithographed—a process not possible with soldered-on nozzles. *Continental Can Co., 100 E. 42 St., New York 17, and Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo 13.*

### Produce pre-packaging made easy

Convenience in produce pre-packaging is one of the advantages claimed by Technical Tape for its new Veg-All pre-packaging station. Basically, it is a packaging table and cabinet on which



is mounted a rotatable "ferris wheel" attachment containing seven rollers. Each roller holds one or more rolls of pre-formed polyethylene bags. The bags, which are attached to each other by perforations, are of varying size and gauge. A chart mounted on the side of the attachment is the key to bag-size and weight data. The clerk doing the packaging simply checks the chart to determine the proper bag size, rotates the "ferris wheel" to bring the proper roller into position (see accompanying close-up photo) and strips off as many bags as are needed. A tape dispenser, for use in closing the bags, is mounted at the right of the roller assembly. The roller assembly holds 20,000 bags, and a 40,000-bag reserve supply is kept in the cabinet on which it is mounted. According to the supplier, the new unit benefits produce pre-packagers because it eliminates ordinary inventory and storage problems, eliminates waste caused by lost or dropped bags, and saves packaging time by keeping a ready variety of bags always at arm's reach. The machine, which is mounted on wheels for easy roll-away storage, is offered on a lease basis. *Technical Tape Corp., New Rochelle, N.Y.*

### Applying aerosol valves to containers

PMC Industries has developed what it claims to be an improved method of applying metal aerosol valves to glass containers. The development is a modification of the supplier's Model RS-1800 high-speed sealer, a multi-spindle rotary machine for attaching metal seals to pharmaceutical vials. A smooth, wrinkle-free finish is achieved, says the company, even when the unit operates at speeds of more than 200 containers per minute. Also available is companion equipment for applying dip tube to valve and for placing the valve assembly on the bottle before sealing. *PMC Industries, Hackensack, N.J.*

### Automatic carton loader and closer

The new Forgrove Model 88 carton-loading machine is designed for the automatic loading of articles into top-loading style hinged-cover cartons or trays. It can be fitted with an automatic closing attachment. Made by Forgrove Machinery



# SHAVING CREAMS

*work up a sales lather in  
aerosol cans by CONTINENTAL*

Solid success story: in four short years, aerosol shaves have hit the top of the shaving cream market (68 million cans in 1957 alone!) It was Continental, remember, who developed the low pressure aerosol can that started this phenomenal market on its runaway path. For your shaving cream, you can't do better than a Continental aerosol, superbly lithographed by Continental experts. Precision-made Continental aerosols are most economically priced. Take your pick from eight sizes and many different styles. You get fast delivery of all the aerosols you need from Continental's greatly expanded production facilities. Research and engineering services are available, plus introductions to valve suppliers and commercial fillers. For aerosols with solid sales power, call Continental today.

**CONTINENTAL MAKES AEROSOLS  
FOR EVERY USE... IN THE  
WIDEST RANGE OF SIZES**

**CONTINENTAL  CAN COMPANY**

Eastern Division: 100 East 42nd Street, New York 17  
Central Division: 135 South La Salle Street, Chicago 3  
Pacific Division: Russ Building, San Francisco 4  
Canadian Division: 790 Bay Street, Toronto, Ont.



PAINT



INSECTICIDES



SPRAY  
BANDAGES



FRAGRANCE



DEODORANT



HAIR SPRAY



SHOE POLISH



ANTISEPTIC

## Equipment & Materials [Continued]

Co., Leeds, England, the machine is being marketed in the U.S. by Package Machinery Co. Products which can be accommodated are such that can be gripped by suction and fed on a moving belt, one at a time pushing another over a deadplate. A variety of styles of cartons and trays can be handled. The standard machine can be arranged to load up to four layers of articles in single-row formation, or it can be adapted for multi-row formation and for up to six layers. Cartons are fed with their length in line with the direction of infeed movement. Articles to be loaded pass from the belt infeed to a carrier from which they are lifted by suction. They are then placed into the cartons by lightly sprung centralizing fingers. The procedure is repeated automatically for successive layers. Machine output, the supplier says, is 60 single-layer loaded cartons or trays per minute, or 30 double-layer loaded cartons. *Package Machinery Co., East Longmeadow, Mass.*

### Carton-opening machine

A new carton-opening machine, which reportedly will set up any 6-oz.-to-16-oz. carrier at the rate of 40 per minute, has been developed by Gardner. It is called the Cartoneer. In machine operation, carrier flats are fed into a hopper



that holds up to 170 carriers. After set-up, carriers are discharged with their handles to the front. Automatic or semi-automatic operation can be achieved on the machine, which reportedly can be changed over from one carrier size to another in less than two minutes. *Diamond National Corp., Gardner Div., 39 S. LaSalle St., Chicago 3.*

### String-pull biscuit container

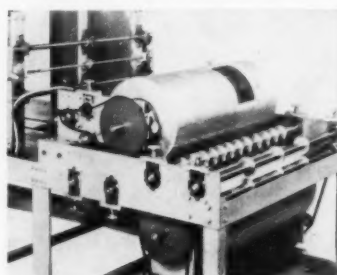
American Can is now in production with a spiral-wound, string-pull-opening refrigerated-biscuit container. According to the supplier, special electronic equipment is used to control the various plies of paperboard and aluminum-foil interior lining used in construction of the can. An electronic console controls stitching and laying of the pull-string inside a groove beneath the paper plies. Tension pull of the string is between two and four pounds, which, the company says, is adequate to prevent string breakage while making it easy to open the can with a light pull. The new can is reported to be strong enough to prevent accidental opening caused by the pressure of leavening in the product. *American Can Co., 100 Park Ave., New York 17.*

### Heavy-duty heat sealing

Ruggedness, safety and simplicity of operation are some of the features cited by Plastic Welding for its new Weldotron Type SP heavy-duty heat-sealing machines. Available in three models, the new series also is constructed to permit easy access to all components, for simplified maintenance. The new electronic units all perform high-frequency heat-sealing operations. In this technique, the supplier points out, high-frequency current quickly generates maximum temperature at the interface of the plastic material being welded. *Plastic Welding Corp., 780 Frelinghuysen Ave., Newark 12.*

### Package and product marking

Claimed to provide commercial-quality printing, coding and marking in production-line operations is Industrial Marking Equipment's new flexographic unit, the Flexo-Printer.



According to the company, it can print multiwall bags or knocked-down cartons of any size. Tops and bottoms can be printed simultaneously, with printing anywhere on the bag or carton. Reported production speeds are up to 3,600 per hour

for cartons. A magazine feeding system has a capacity of 150 cartons. The unit's cited improvement in print quality is credited by the supplier to a new inking system. In this system, a rubber roll runs constantly in a bath of ink, then comes in contact with a chrome-plated, engraved steel metering roll. This roll applies the film of ink to rubber type on a roller made of cured and ground rubber. Ink supply is kept full by pouring ink into the open fountain, thus eliminating the need for machine shut-down during production runs. *Industrial Marking Equipment Co., 655 Berriman St., Brooklyn 8.*

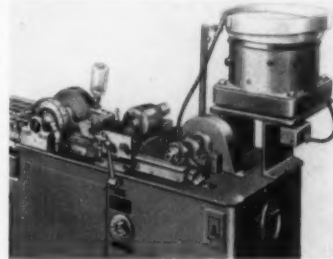
### Liquid-polyethylene-coated paper and board

Polyethylene-coated paper, board and foil, produced via a coating process which is reported to offer many advantages over hot-melt coatings, is available from Plastic Papers. The coating process is known as Contour Coating. It consists of dissolving polyethylene in a solvent, then flowing the homogeneous liquid solution uniformly onto the substrate material. The solvent is then removed and the polyethylene remains as a uniform, continuous film on the backing material. Among the advantages of the coating process, as reported by the supplier, are: absence of pin holes in the coating; cleanliness of the resin, due to the use of a liquid solution; superior bond, since there are no "bridging" defects such as might occur during extrusion coating of backing paper with slight depressions in its surface; uniform barrier qualities; crease resistance, due to the film coating's stretchability, and elimination of overweight coatings. *Plastic Papers, Inc., 210 Miller Rd., Hicksville, N.Y.*

### Capsule-banding machine offered

Now available from Colton is a new machine that is reported to seal hard capsules at speeds up to 300 units per minute. Called the

Colton Model 950 banding machine, it is designed for use with size "O" capsules. The supplier's new machine permanently seals hard capsules by applying a  $\frac{1}{8}$ -in.-wide band of clear or colored gelatin around them. It is designed for use by packagers of pharmaceutical products. Additional data are available from *The Arthur Colton Co., 3400 E. Lafayette Ave., Detroit 7.*



### Case sealer adjusts to many sizes

J. L. Ferguson's new case-sealing machine automatically adjusts itself to a wide range of case dimensions fed in random order. Called the Packomatic Omnimatic-Rotopress, the fully automatic unit glues, seals and discharges ship-

[Continued on page 170]



# U.S.I. POLYETHYLENE NEWS

A series for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

DECEMBER, 1959

U. S. Industrial Chemicals Co., Division of National Distillers and Chemical Corporation

99 Park Ave., N. Y. 16, N. Y.

## Packaging Notes

A handy polyethylene pump for inflatable items has been marketed by a California manufacturer of air mattresses and beach toys.



The pump consists of an open polyethylene bag with a reinforced hole at one lower corner. The polyethylene pump is used by attaching it to the valve of the inflatable item, and fluffing the bag open. Then the top is closed by rolling it. Finally, the bag is squeezed down and rolled to force the air from it into the inflatable item.

**Compact First Aid Kits of Polyethylene** are being marketed. The inexpensive kits are specially designed for marine use, but outlast metal containers any place where corrosion is a problem. The kits are water, rust, and mildew proof. They also float. The kits are available in two sizes and contain bandages, tapes, ointments, and scissors normally found in first aid kits.

**Wholesale jewelers use polyethylene bags** to ship their merchandise. The tough polyethylene bags not only give better inspection advantages but they also eliminate heavy returns of jewelry formerly scratched in shipping.

**Use of a heat-sealed strip of polyethylene** has greatly reduced the difficulty of opening sealed polyethylene bags. This application of polyethylene is now being used by a cake mix producer for easy opening of his package's inner bag.

A ½ inch strip of polyethylene is welded along the width of one side of the bag by a thin line of heat-sealing. It runs 1 inch below the top of the bag and extends ¼ inch from each edge of the bag. When the free end of the strip is pulled, the polyethylene bag tears with it along the heat-seal line.

**DO YOU HAVE** a new polyethylene packaging development you'd like the industry to know about? Make it routine to send your information on new developments to U.S.I. POLYETHYLENE NEWS.

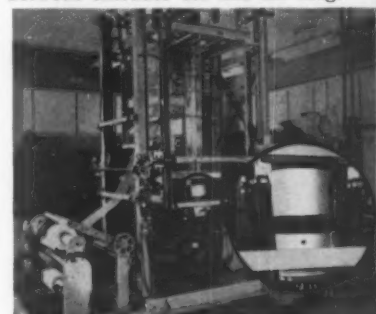
Address the Editor,  
U.S.I. POLYETHYLENE NEWS, U. S. Industrial Chemicals Co., Division of National Distillers and Chemical Corp., 99 Park Avenue, New York 16, N. Y.

## New U.S.I. Technique Improves Optical Properties of Blown Polyethylene Tubing

Annealing Chamber Increases Light Transmittance, Reduces Haze

The U.S.I. Polymer Service Laboratory has developed an annealing chamber or "chimney" technique which results in significant improvement in clarity and gloss of blown polyethylene tubing, with practically

no sacrifice of physical strength. The method, involves installation of a chamber which encloses the blown tubing between extruder die and air ring.



Polyethylene tubing has improved clarity and gloss when produced with new U.S.I. annealing chamber technique. Close-up view shows "chimney" in place between extruder and air ring.

### Unit is easy to install

The chimney may be made of wood, glass or insulated metal. It should be constructed in two sections or hinged to permit installation during extrusion . . . thus eliminating need for rupturing the "bubble" when threading film through the annealing chamber.

Height of chimney is an important factor. Optimum results are usually obtained with a 6 to 10" chimney height. While ratio of chimney diameter to die diameter is not critical, it should be held between 2:1 and 3:1. For example: a 3" die would require a 6 to 9" chimney diameter.

An evaluation of PETROTHENE P-200 25 resin using this technique revealed

Optical Property	No Chimney	8" Chimney
Transmittance	30%	70%
Gloss	7%	11%
Haze	11%	4%

No significant change was noted in impact strength. Elmendorf tear test showed that a directional strength balance was brought about by adding the chimney. Tear values increased in the transverse direction and decreased in the machine direction. Yield, break and elongation were essentially unchanged.

Work on this new technique is continuing at the U.S.I. Polymer Service Laboratory, where your inquiries are always welcomed. If you have special problems, U.S.I. engineers will gladly offer their assistance. You are also invited to write for a Technical Data Sheet describing the new process.

## Polyethylene "Socks" Used in Causeway Construction

A causeway between Miami and Miami Beach will consist of a number of bridges connecting a series of man-made bulkheaded sand islands. The company building the causeway has found a unique construction use for polyethylene film "socks."

When the sheetpiles that form the bulkheads for the man-made islands are in place, the top pockets or slots between adjacent piles are grouted with mortar to make the wall absolutely tight and prevent loss of sand fill. To prevent leakage of mortar in this operation and to save time in building forms, the contractor devised polyethylene "socks" that fit in the slots to be filled.

A small amount of mortar is placed in the bottom of the "sock." The sock or bag is then allowed to sink into place in the slot and the rest of the mortar is then poured into it. The method is described as an efficient and effective way to seal joints in precast concrete structures, whether in water or in the dry.

## Polyethylene is Vacuum Formed on Planting Pots

A midwest company has developed a process for vacuum forming 1 mil polyethylene film around peat moss planting pots.

The pots, which are used to start flowers, vegetables and nursery stock of all types, shorten the plants' growing period, and at the same time, improve their quality.

This vacuum forming of polyethylene has significantly improved the pots' strength by increasing their resistance to water damage. The polyethylene jacket insures a constant supply of water for the plant in the pot. When the plant and its pot are ready to be put in the ground, the polyethylene film strips off easily.

These pots, now being field tested extensively by greenhouses and commercial growers, are molded by drying peat moss paper slurry. The polyethylene film is then vacuum-mated to them.



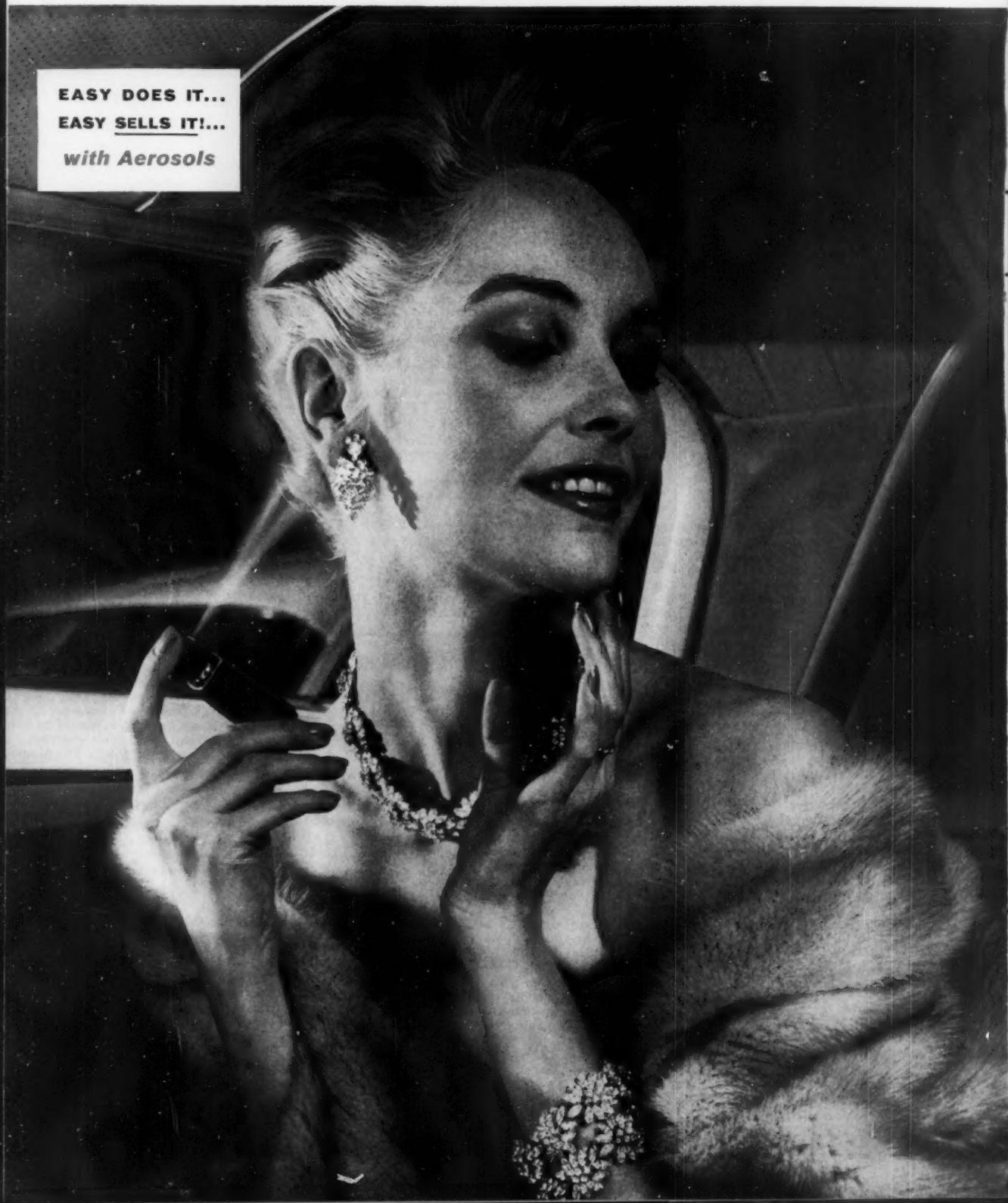
Photo courtesy  
A. O. Reynolds Co.,  
Lebanon, Indiana

# ***Aerosol Perfumes***

**EASY DOES IT...**

**EASY SELLS IT!...**

***with Aerosols***



# ***are on the move!***

**Sales up 518% in 1958 over 1955!**

***Reason: the magic touch of aerosol packaging makes perfumes and colognes easier to apply...eliminates loss from evaporation, spillage, leakage and breakage.***

Aerosol perfumes and colognes are moving fast! Last year, sales shot up to 28 million units—a 518% increase over the 5.4 million units sold as recently as 1955.\* And the trend has just begun. The push-button convenience of modern pressure packaged perfumes and colognes . . . the elimination of loss from evaporation, spillage, and breakage . . . have proved tremendous sales advantages. An aerosol perfume won't leak. Every woman can now *safely* carry perfume in her purse . . . have it with her wherever she goes.

If you're interested in aerosol perfumes and colognes, follow the course of so many successful aerosol marketers—take advantage of the special services General Chemical puts at your disposal.

## **How General Chemical can help you**

As one of America's leading producers of aerosol propellants, General Chemical can give you valuable technical information which will help you determine the proper aerosol propellant compatible with your perfume or cologne. We

will supply you with the latest aerosol market information. We can show you promising new types of aerosol formulations developed in our laboratories. And we can give you information on how contract fillers can help you, from test marketing right through to full commercial production. The fact is, through the use of contract fillers you can get into aerosols quickly and efficiently—*without any outlay on your part for plant, special equipment or personnel!*

Why not take advantage of these valuable services from General Chemical *now*? Call or write us today for a confidential discussion of your requirements.

\*Estimated by Market Surveys Department,  
General Chemical Division, Allied Chemical Corporation

**genetron<sup>®</sup>**  
**aerosol propellants**

Putting the "push" in America's finest aerosols

*Basic to America's Progress*



**GENERAL CHEMICAL DIVISION**

40 Rector Street, New York 6, N.Y.



## The case of the firemen's fix

**MISS WATSON:** Fearless, you're late this morning. Where have you been?

**FEARLESS FULLER:** I stopped off at the local fire station.

**MISS WATSON:** For a quick game of checkers?

**FEARLESS FULLER:** No, Miss Watson. This happens to be the season of the year when our men in blue are quite busy repairing toys for some of our city's less fortunate youngsters.

**MISS WATSON:** A wonderful undertaking. But how do you fit in?

**FEARLESS FULLER:** Well, as you know, they get all types of toys. Wooden toys, metal toys, plastic toys, rubber toys, china dolls—almost everything imaginable.

**MISS WATSON:** I guess that's true.

**FEARLESS FULLER:** Well, repairing broken toys requires adhesive in many instances, so Captain Barnes called on me for advice.

**MISS WATSON:** Did you solve his problem?

**FEARLESS FULLER:** Yes. Fortunately, Fuller makes many, many types of adhesives. We've got an adhesive suited to practically any bonding job.

**MISS WATSON:** You mean, for instance, Fuller even has an adhesive for bonding metal to metal?

**FEARLESS FULLER:** That's right. As the famous comedian says . . . we got a million of 'em!

**MISS WATSON:** How are you going to write off the adhesives you're donating to fix the toys?

**FEARLESS FULLER:** I'll slip the cost into my expense account.

**MISS WATSON:** Under what category, pray tell?

**FEARLESS FULLER:** Christmas spirits, Miss Watson. Christmas spirits.

**MISS WATSON:** Fearless, you're the best boss a girl ever had.

**FEARLESS FULLER:** Thank you, Miss Watson. It's just that a Fuller man always knows the solution to adhesive problems.

*Your Fuller man is ready with the correct solutions on any adhesive problems for you, too. Contact your nearby plant.*

## H.B. Fuller Co.

255 Eagle Street, St. Paul 2, Minn.

ST. PAUL, MINN. • ATLANTA, GA. • BUFFALO, N.Y. • CHICAGO, ILL.  
CINCINNATI, OHIO • DALLAS, TEX. • KANSAS CITY, MO.  
LINDEN, N.J. • LOS ANGELES, CALIF. • MEMPHIS, TENN.  
PORTLAND, ORE. • SO. SAN FRANCISCO, CALIF. • TAMPA, FLA.  
also WINNIPEG, CANADA





**1,322 COLORS** of paint are offered by every paint dealer featuring the Colorizer Paint Color System. Adding Colorants to the base paint is a quick, easy, clean job—thanks to Colorizer's tough new "Colorpods" of "Scotchpak" Heat-Sealable Polyester Film.

## "SCOTCHPAK" TAKES OVER

...streamlines a multitude of packaging jobs!

Looking for a film that's *tough*, clear as glass—one you can freeze or boil? And would you like that same film to be heat-sealable with a seal that's as tough as the film itself? Then your answer is "Scotchpak."

Here is a film that combines the best features of many films. It can be heat-sealed in less than 2 seconds—a temperature of 300° to 400° F. and 20-60 psi is all that's required.

"Scotchpak" Film resists freezing cold (down to -70°F.) and boiling heat (up to 240°F.). It resists acids, oils, alkalies and organic solvents. It is light (saves shipping

costs!) and compact (saves space in shipping and on the shelf, too!)

"Scotchpak" is now available in roll-stock widths up to 50 inches—from 2 mils to 4.5 mils thick, ready for printing—if you desire. It can be easily handled on conventional bag-making and filling equipment.

Our Customer Service organization is ready to work with you to show you how "Scotchpak" can solve your film fabrication and packaging problems. For complete information, write Film Products Group, Dept. CAK-129, 3M Company, St. Paul 6, Minnesota.

**SCOTCHPAK**  
BRAND

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**SCOTCHPAK**  
BRAND  
HEAT-SEALABLE POLYESTER FILM

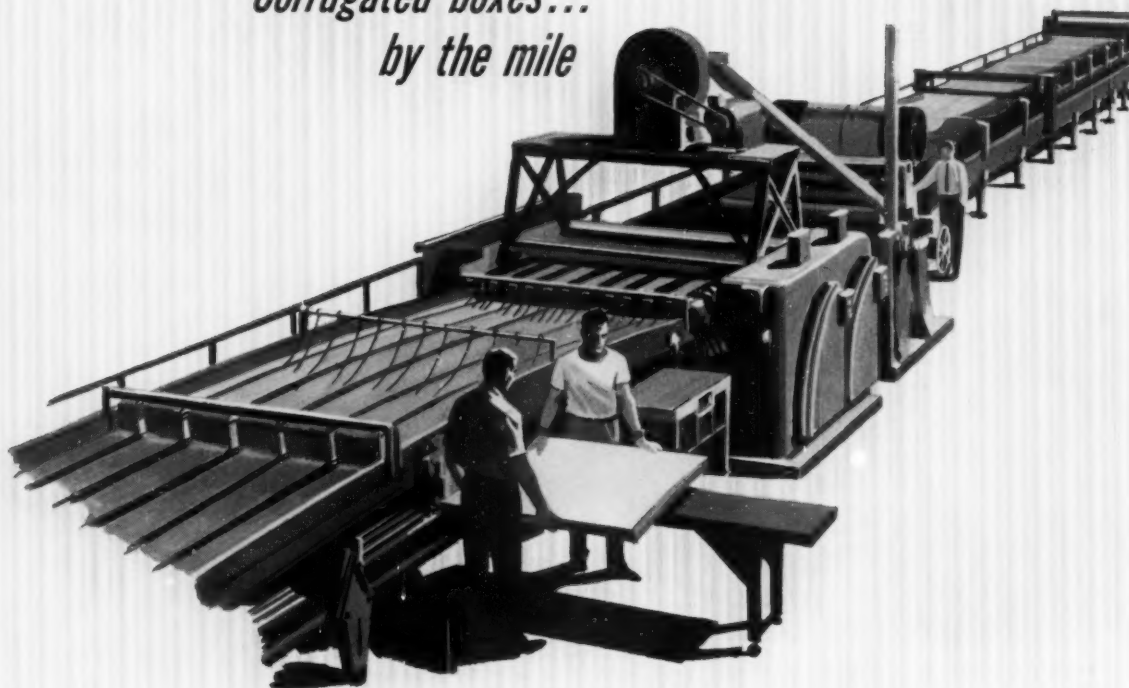
**SCOTCHPAK**  
BRAND

**MINNESOTA MINING AND MANUFACTURING COMPANY**

... WHERE RESEARCH IS THE KEY TO TOMORROW



*Corrugated boxes...  
by the mile*



Miles of corrugated board  
roll off giant H & D corrugators  
like this one every hour of  
the working day. This production  
assures you of prompt delivery  
of quality boxes in volume.  
Better see H & D.



**Hinde & Dauch**

Division, West Virginia Pulp and Paper

AUTHORITY ON CORRUGATED PACKAGING • SANDUSKY, OHIO  
15 FACTORIES • 42 SALES OFFICES

# Sounding board

## WE ASK THE READERS

### What do you think of pre-pricing by packagers? — Part I



**L. Bowden deForest**  
Executive Vice President  
American Rack Merchandisers Institute  
Chicago

Approximately 70% of our Service Distributor Members prefer pre-priced merchandise, while the other 30% prefer to do their own price marking.

In my opinion, pre-pricing should be done wherever possible by the manufacturer, as it eliminates a substantial amount of additional expense on the part of the distributor who must unpack each carton, price every item and then repack them in cartons prior to placing them in stock.

It is sometimes difficult for a manufacturer to pre-price his merchandise owing to the fact that shipping costs vary widely to different parts of the country. For example, the product of a New York manufacturer may sell for more on the West Coast than in the East.

Another factor in pre-pricing is that more than two-thirds of our states now have a sales tax, as do many cities within the states, with the result that it would be helpful if manufacturers would place the legend "plus sales tax where applicable" in small print directly under the price mark.

Many supermarket chains also use different-colored pricing inks on various products. For example, in most supermarkets blue or black indicates that the item should be rung up on the grocery key at the check-out counter. Red indicates meat and poultry; green, fruit and produce. In most food stores non-food items are credited to grocery-department sales.



**Frank N. Carpenter**  
Vice President  
Shulton, Inc.  
New York

There is considerable justification for further exploration in consumer-package pre-pricing. All the advantages are not on the retailer's side. As I see it, there are at least three which accrue to the manufacturer.

One of the biggest problems in marketing today is that many times it takes longer to get our merchandise out of the marking rooms and onto the floor, the shelves and the counters than it does to deliver that merchan-

dise from factory to store. In a fast-moving season, this time lost in the marking process represents a loss of business. Pre-pricing naturally cuts down on time lag and means less out of stock and fewer lost sales.

Second, pre-pricing eliminates pencil or ink smudges, crayon prints and, many times, unattractive stickers—all of which, necessarily applied hastily by the markers, most often deface the artistry and beauty of the package on which so many manhours and millions of dollars have been spent. And, third, pre-pricing tends to eliminate price undercutting.

We at Shulton are experimenting in an effort to develop the best approach to the subject with a new item in the Old Spice men's line which requires no Federal tax. The chief problem for the manufacturer in pre-pricing a package is anticipating what will happen to the package in areas where state and city taxes are levied. A certain amount of handling by the local merchant is made mandatory by such local taxes. Defacing of the package in these instances may be alleviated to some degree by the manufacturer, who provides a specific spot for price marking as part of his package design in an area where it can be readily seen without spoiling the appearance of the package.

Whether pre-pricing should ever be extended beyond the area of staple items to gift merchandise is a moot question that possibly only the future will clarify.



**John Hertz**  
Director, General Management Div.  
Super Market Institute  
Chicago

We have a meeting regularly with the top chains of the country in the non-foods division of Super Market Institute. The aim of the meetings is to make non-foods more profitable to supermarkets.

Pre-pricing merchandise in the non-foods departments of supermarkets has been discussed from time to time. Essentially, profits in supermarkets come not only from the proper selection of merchandise and its merchandising, but from the efficient operation of the department as well. As in all other departments, labor represents the largest single factor of the store expense. About 11 cents of every supermarket dollar is spent on people preparing merchandise for consumer selection.

By and large, supermarket operators are concerned primarily with the fact that manufacturers provide a

## Sounding Board [Continued]

white spot where a mechanical price stamp can clearly mark the price to the consumer.

In many cases, because of the packaging of non-foods, the price spot is neglected, or is put in inaccessible places so that employee labor is increased. While the great majority of manufacturers are aware of the need for price spots, there are still many, many manufacturers who ignore this need of the stores.

Pre-pricing—that is, marking prices on the package at the manufacturer level—seems to offer a major source of labor saving. But, surprisingly, except under certain conditions, most of the non-food executives do not find it of value, except in fair-trade states.

The reason why is simple: Supermarkets insist that they must retain the initiative in pricing merchandise in order that they may be competitive and in order that they may merchandise. There is, therefore, little benefit if a labor saving is made by pre-pricing, but the supermarket has lost the opportunity or decision to provide the consumer with the best possible bargain.

Many supermarkets, for example, may regard themselves as so efficient that they can pass along part of these savings to the consumer. Many others may prefer to get higher prices and higher profit margins so that they can get advantage in other sections of the store, such as the meat and produce departments.

Almost all operators are in agreement that in the case of individual chains, it is both useful and desirable to work out pre-pricing arrangements with the manufacturer. But once again the pricing decision and the initiative remains with the chain. This happens frequently when, as in the case of hosiery, the pre-pricing becomes part of the whole promotional package that might see the product sold under the chain's name.

In short, it may be useful statistically to regard the supermarket as one single market, but in the realistic world of selling, manufacturers of non-food products will find it more practical to regard supermarkets as a series of vigorously aggressive companies seeking their own merchandising and marketing path.

It may be that when some chains complete cost-accounting studies, pre-pricing will seem cheaper at the manufacturer level in some cases.



**Irving Feldman**  
President  
Zelart Drug Co., Inc.  
Westbury, Long Island, N.Y.

As toiletry merchandisers, we prefer to price mark merchandise for our customers—the operators of supermarkets. We are not in favor of having manufacturers pre-price products because, in the sale of toilet articles in supermarkets, the store owner or manager wants his merchandise marked in the same pattern as all other merchandise in the store is marked. It's not that the management wants to fool the consuming public. Rather, in the case of these stores, a manufacturer's printed price creates the wrong impression: that the

price is the same everywhere else, especially in department stores, where there are charge accounts, deliveries, gift wrapping and other special services that cost extra. Therefore, supermarkets prefer that merchandise be priced in the same manner throughout the store to give the correct impression: that the item is specially priced just like all other goods in that store.

We have unusual problems because we operate in various counties, even in the same state, as well as in the city of New York. Each of these has different taxing systems. Yet when a manufacturer's printed price takes up the entire price spot on a package, it is impossible for us to mark any tax legibly. Moreover, on Federally taxed merchandise, many manufacturers don't want to show that a \$1.25 item, for instance, sells for \$1.38. Since they don't want to say \$1.38 in their price marking, they say \$1.25 "plus tax." If we can't stamp the tax amount, this causes trouble at the check-out counter because temporary girls often add only a local sales tax instead of the 10% Federal luxury tax first. Also, the tax on some items doesn't come to 10% because not all the elements in all packages are taxable. This depends on Government rulings. Hence the clerk can't guess at the "plus tax," but must *know* what it is.

The Toiletry Merchandisers Assn., of which I am a director, has for many years had a standing resolution, re-affirmed each year, which says that we don't want merchandise pre-priced, that we prefer to do it ourselves—properly—so it meets the desires of our customers. Of course, we have no objection to the manufacturer doing the job—if he does it the way we want it. But it's pretty difficult to get uniformity that way.

One strong argument against pre-pricing comes from the fact that if a retail price rises, it obsoletes a whole inventory of pre-priced packages.

Another thing we don't like is such printed material on a package as "2 for 69¢." Even though a package may contain the two items advertised, a check-out girl may let the customer take two packages, or a total of four items for the price of two. Or if a package says "Buy this size and save 28¢" the check-out girl may see that figure and charge the 28 cents instead of the correct price. The same goes for such printing as "15¢ off." The check-out girl may charge only the 15 cents by mistake. Sometimes a package has the "2-for" offer printed on one side, the "saving" price on a second and another deal offer on a third. In fact, a package can have a different mention of price on each of its six sides. Whichever one the customer holds up to the check-out girl may be the price she will be charged. We have to go over each of these packages with a crayon to cross out the conflicting and confusing price mentions and then stamp on the correct one. We can't use a gummed label—some customers peel it off.

I say to manufacturers: Give us the price spot in the proper place and we'll do the whole price-marking job. Pack goods so that when we open the cases, the price spots are right-side up. Give us smooth, not embossed surfaces, so we can stamp the price clearly. Use white or pastel colors. They show price marks best. What we like is what's best for our customers.

*Because of the great interest in this question, additional replies will be published in the next issue.*





## Plastic-coated glass makes the ideal pressure package



## Only Owens-Illinois pressure packages have this bond of plastic to glass

THE PLASTIC IS MORE THAN a jacket around the bottle in an Owens-Illinois pressure package . . . it's bonded to the glass as a part of the container itself. It won't peel off.

This permanent bonding of plastic and glass gives you a tough and

handsome package which will never alter your product. For glass is inert to chemicals . . . is flavorless and odorless . . . and keeps what it contains at peak of effectiveness.

These colorful and sturdy Owens-Illinois pressure packages come in

a variety of shapes and sizes. Choose from a wealth of stock containers, or let O-I create a new design just for you.

Every O-I container can be permanently decorated with Applied Color Lettering.

DURAGLAS CONTAINERS  
AN ① PRODUCT

**OWENS-ILLINOIS**  
GENERAL OFFICES • TOLEDO 1, OHIO

tops for looks...

Alcoa



# Aluminum hidden thread caps

Double-wall design hides thread ridges inside these caps, leaves all outside surfaces smooth for brand-new decorative treatments.

This beauty *lasts*, too. Alcoa Hidden Thread Caps are made of non-tarnishing, pure aluminum. One-piece, multi-drawn construction will not back off, loosen or leak, break during production runs, or after opening. Liners never separate from caps, assure positive resealing.

Do your present caps stand out on shelves? Does their appearance reflect product-quality, attract sales? Find out how Alcoa Hidden Thread Caps can top off your bottles with compelling new customer appeal. For full information, contact your Alcoa salesman, or write: Aluminum Company of America, 1729-M Alcoa Building, Pittsburgh 19, Pa.



For exciting drama watch "Alcoa Theatre," alternate Mondays, NBC-TV, and "Alcoa Presents," every Tuesday, ABC-TV

# SWING-A-WAY

sees clear sales advantages in product-line packaging with vacuum-formed Celanese Acetate



"These five most-popular Swing-A-Way products are now out on view," says Al Packer, Vice-President of Swing-A-Way Manufacturing Co., St. Louis, Missouri. "They are on display right where customers can reach for them, thanks to blister-packaging with Celanese Acetate. The clear, sturdy acetate lends an extra sparkle and protects the product at the same time. It adds up to better sales and more profits."

It's true in most cases: contour packaged items made with Celanese Acetate outsell products merchandised in bulk or in conventional packages. Frequently, they simplify dealer operations. Celanese Acetate is ideal for packaging products in sets and entire lines. You can package a great variety of sizes and weights, from sets of shoelaces to heavier items such as these can openers which weigh up to 1 1/4 pounds. Fully automatic machines are now available that form blisters directly from rolls of Celanese Acetate, and fill, seal and trim at rates up to 18,000 units per hour! Your packaging costs go down!

We'd be pleased to send you more information on vacuum-forming with Celanese Acetate. Write to: Celanese Plastics Company, a Division of Celanese Corporation of America, Dept. 108-L, 744 Broad St., Newark 2, N. J. Celanese®

Canadian Affiliates: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver. Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Avenue, New York 16.

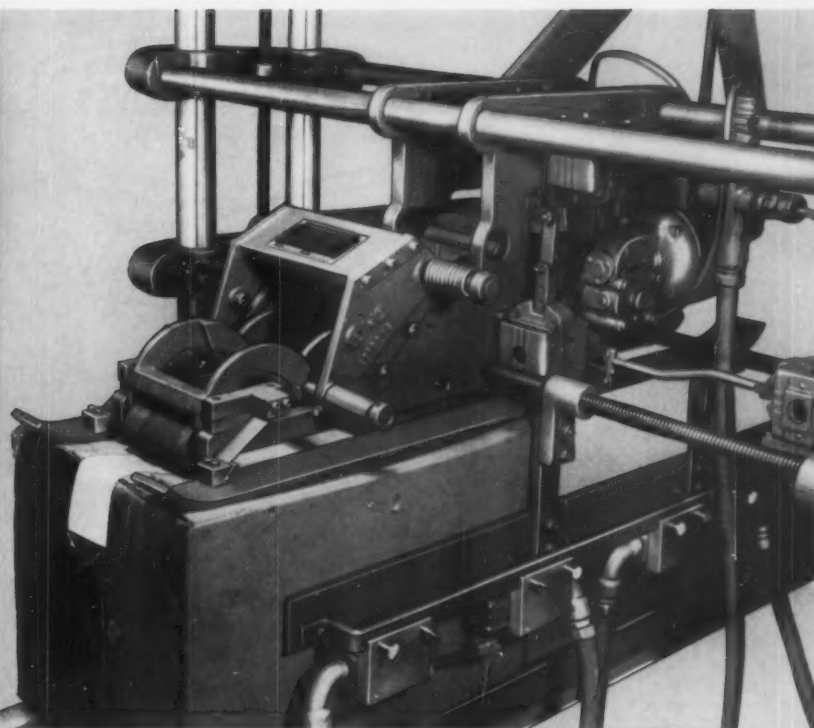
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# TAPE- SEAL AND SAVE



## WAGNER M-10 Attachment on Your Gluer Permits Tape-Sealing or Gluing

Put the Wagner M-10 Top Taping attachment on your line and watch it pay for itself... FAST. The M-10 attachment is the most advanced taping attachment on the market. It will handle up to 30 cartons per minute, and can be adjusted to handle various sizes in seconds.

Production savings are only part of the picture. Reports from the field prove that the Wagner M-10 can save thousands of dollars indirectly. The savings from using tape are considerable and your product is never damaged when a taped carton is opened.

Customer approval and satisfaction is one of the most important factors in your business. Your customers will be relieved of the tearing or slashing of cartons to put

your merchandise on display. Yet, the cartons are sealed so that the contents are kept fresh and clean.

The use of colored or printed tape can catch the customer's eye. It identifies and sells the product until the carton is opened.

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To achieve the greatest savings—which can run into thousands of dollars—get the best in carton sealing. Adapt a Wagner M-10 top taping attachment to your gluer today.

**Mail Coupon Today for Full Information**

### Exclusive Wagner Features

- ▶ FITS ALL existing Ferguson, Standard-Knapp and Crompton-Knowles gluing machines, and offers low cost conversion for taping.
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- ▶ TAPES up to 1800 cartons an hour.
- ▶ HANDLES cartons from 8" x 8" x 8" up to 25" x 25" x 25".
- ▶ TAPES various size cartons on the same conveyor line. Only a few seconds needed to change size.

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## Want more profit from your Folding Carton Operations?

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Swift's new specialized resin adhesives are both fast and cleaner machining. And what's more, they have greater resistance to moisture. Swift's 23 adhesives plants produce a complete

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## New plastic packages boost ice cream sales 60%

Six months after a southern ice cream maker switched from half-gallon conventional tubs to plastic packages molded from DYLENE® polystyrene sales of his premium-priced ice cream jumped 60%. The same processor also substituted pint plastic packages for his quality line of sherbets. Within three months he had sold over 80% as many pints in the new plastic packages as sold in conventionally packaged pints for the entire previous year. Customers like the fresh, sparkling appearance of the plastic packages and they appreciate the fact that the package stays attractive and holds its shape until all the contents are used.

The plastic packages are molded from DYLENE polystyrene, a product of Koppers, by the Clearview Container Company of Atlanta, a division of Greyshaw of Georgia. In addition to ice cream they are also used to package potato and gelatin salads and other dairy products retailed through large southern food chains.

DYLENE polystyrene is ideal for packaging a variety of food products. It is inert in the presence of food acids. It will not affect color, taste, or odor. It is strong enough to

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For more information on DYLENE polystyrene and these other fine plastics—DYLITE® expandable polystyrene, DYLAN® polyethylene or SUPER DYLAN® polyethylene, write to Koppers Company, Inc., Plastics Division, Dept. MPG-129, Pittsburgh 19, Pennsylvania.

Offices in Principal Cities

In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

# KOPPERS PLASTICS



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package to be run through the high-speed packaging lines necessary for economical cigarette production. (Coated by Lowe Paper Company, Ridgefield, N. J.; printed and converted by U-S Printing & Lithograph Division, Diamond National Corp., N. Y., N. Y., for The American Tobacco Company.)

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profits . . .

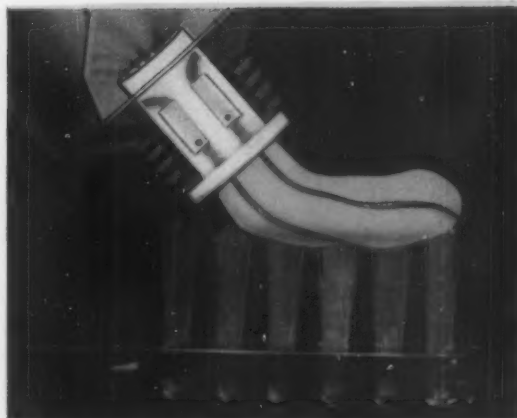
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polyethylene resin

There are twelve basic formulations of ALATHON polyethylene resins specifically designed for packaging applications. So whether you require an unsupported film, coating, or a molded container or closure, there is an ALATHON best suited for your need.

These illustrations show how smart manufacturers are getting better packages, products and profits—through the use of Du Pont ALATHON. Why not join them?

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**RESISTS CHEMICALS:** Diaphragm and insert tube of DuPont ALATHON 20 polyethylene resin are unaffected by toothpaste, which is striped by squeeze pressure and capillary attraction. (Parts molded by Gibson Associates, Cranford, N. J., for Lever Brothers Co., N. Y.)



**PROTECTS FOOD:** Coating of ALATHON 16 inside pack keeps the catsup in this handy portion pack fresh. The coating is tasteless, odorless, will not affect contents. Strong heat seals inhibit leakage. (By Flexible Pkg. Div. of Continental Can Co., Mt. Vernon, Ohio, for Brooks Foods, Inc., Collinsville, Ill.)



**INSURES FRESHNESS:** A coating of Du Pont ALATHON 16 polyethylene resin inside candy wrapper keeps freshness in, moisture out, and permits quick, lasting heat seals. (Coated by Crocker-Burbank Papers, Inc. Fitchburg, Massachusetts, for Peter Paul, Incorporated, Naugatuck, Connecticut.)

POLYCHEMICALS DEPARTMENT



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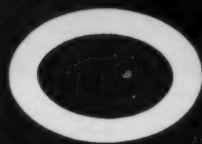


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# World Report

Abstracts from foreign packaging magazines

## FRANCE

### 1959 Oscars of French Packaging Institute

Among 150 entries, 32 were singled out for prizes in this year's competition of the French Packaging Institute. Awards were made in recognition of outstanding contributions to improved methods of protection and preservation, according to the Institute's *Communiqué de Presse* (France). Decisions of the jury were "partly based on controlled technical indications to settle the intrinsic value of the presented packagings." Descriptions of a few winners are significant of European objectives toward lighter-weight, disposable packages and greater convenience. The firm of Ets. Lerebourg received an award for a lighter-weight, no-deposit, jam-jar assembly with a twist-off cap that meets the standards of the European Common Market. The growing importance of disposability was seen in the award to Unipol for a one-way glass bottle for cooking oil of very light weight to save shipping costs, facilitate handling and eliminate the nuisance of returns for the consumer. The award to Verrieres Souchon-Neuvel for an ultra-light, disposable beer bottle reflected the same trend. That France, too, is thinking in terms of disposable plastics was revealed by the award to Ets. E. Manducher & Cie. for development of a plastic yogurt pot, thermoformed from a sheet of high-tensile poly-yrene and disposable after use of contents. Biscuiterie Maurice received an Oscar for an aluminum-paper combination resisting 250- to 300-deg. temperatures for use as a cake pan liner that apparently becomes the sales package after the cakes are taken out of the molds.

A French trend to plastics for detergents is seen in the award to Société Solitaire for a liquid detergent in a rigid plastic flask made by "forming-blowing" from a single sheet of vinyl chloride. The report states that the flasks are turned out on an entirely automatic machine in a single operation at very low cost. And the package is "as light as eight cigarettes," is transparent and unbreakable, and stands upright like any standard bottle.

## IRELAND

### Irish form Packaging Institute

A Packaging Institute has been formed in Ireland, with headquarters in Dublin, as a direct outgrowth of a series of Packaging Seminars held two years ago under the auspices of the European Productivity Agency. "We are now firmly established," says C. Ben McConnell, chairman, "and have recently affiliated with the European Packaging Federation in Paris." Membership includes a very representative cross-section of Irish industry, particularly those firms interested in packaging for home as well as export. Projected activities are outlined in *Irish Management* (Ireland): (1) Organization of an information center of reference material. (2) Organization of courses, lectures, films and exhibitions. (3) Publication of bulletins on latest packaging trends both abroad and at home. (4) Formation of an advisory committee to assist members. (5) Standardization of packages, packing materials, pallets and shipping containers. (6) Maintaining international cooperation with the European Packaging Federation.

## FRANCE

### Turn-about, pour-spout closure

A new solution to the problem of providing a pouring spout as well as a tamperproof closure on large containers and carboys is described in *Emballages* (France). The device

consists of specially designed metal screw caps that fit one within the other and a polyethylene pouring tube. When sealed for shipment, the polyethylene pourer fits inside the neck of the container. But when turned around and screwed on for dispensing contents, it projects outside the container. This turn-about is accomplished by means of the screw threads on the two different caps. A center circular section of one cap is pierced and removed to provide the opening for contents to flow through the polyethylene spout. The arrangement is designed to permit the use of containers with wide mouths for filling, to eliminate high protruding elements during shipment and storage, and to assure a tight original seal and a convenient means for reclosure.

## ENGLAND

### Cartoner loads in layers by suction

In three seconds a carton or tray can be filled with three layers of small articles by a carton-loading machine described in *Packaging News* (England). As soon as a layer is assembled, a suction head picks it up and deposits it in the carton waiting below. Lightly sprung centralizing fingers assure that the articles are placed correctly. This operation is repeated until the required number of layers has been built up. Change parts enable a variety of different-style trays and top-loading-type cartons to be filled by the carton loader. The standard model can be arranged to load up to four layers of articles such as biscuits, in single-row formation, and it may also be adapted for multi-row formation, up to six layers. Types of articles that can be loaded are limited to those with a surface which can be gripped securely by suction and with sufficient rigidity and slip to allow them to push each other from the moving belt on to a deadplate. The loading machine is linked on the production line with a carton-erecting machine.

## CUBA

### New fibre to compete with jute

A fast-growing plant resembling a hollyhock reportedly may produce a fibre that could compete with jute, according to a short announcement in *Canadian Packaging's Overseas Report* (Canada). The soft vegetable fibre, called Kenaf, can be grown in most tropical and sub-tropical climates, it is stated, and is being given serious attention in Cuba, where mechanical harvesters have been developed.

## ENGLAND

### Vinegar bottle injection molded in two pieces

Making of plastic bottles by injection molding, instead of by the familiar blow-molding process, has been accomplished by a British firm. An example is illustrated and described in *Packaging News* (England). The bottle, expected to be on the market soon as a container for Sarson's malt vinegar, is made of standard heat-resisting polystyrene, although it is stated that high-impact styrene could be used. Beginning by fusing together the flanges or rims of conical containers looking like cocktail shakers, the firm refined the fusing process until a true bottle of pleasant appearance and adequate strength was produced, weighing 2½ oz. in contrast to a 10¼-oz. comparable glass bottle. Injection molding, it is pointed out, gives precise control of wall thickness and a higher standard of clarity than is possible with blow molding. The Sarson's malt-vinegar bottle has a maroon upper half and a clear base.

Polypropylene is expected to offer further possibilities in

this field and its properties are now being studied. In its present material and form, the two-piece fused bottle may be used for any liquid compatible with polystyrene. Its future, reportedly, will rest largely on the economic facts which emerge when the fully automatic production plant goes into operation. The closure for the vinegar bottle is to be a two-piece polyethylene and polystyrene construction that presses into place on the smooth pouring lip of the bottle. Other injection-molded plastic bottles, however, have been designed to take standard plastic screw caps with liners, applied by standard screw-capping machines.

#### **ENGLAND**

##### *New non-stick, non-migratory coatings*

Two new silicone coatings that represent a major step toward solving difficulties experienced in dealing with sticky materials or products likely to adhere to their packaging media during handling and storage are discussed in *Packaging News* (England). Both may be applied to any paper substrate and are reportedly non-migratory. Not only are they said to remain on the surface of the paper, but they do not affect the material with which they are in contact and are not themselves affected. Pressure-sensitive adhesives, therefore, may be kept in contact with the treated paper for long periods without affecting the adhesive or losing the easy-release property for which the silicones are employed. Trials have shown that self-adhesive labels still peel cleanly off their backing after 18 months' storage, although this application is only a small part of the products' potentials, it is pointed out.

The ever-wider use of pressure-sensitive tapes is facilitated by the new coatings which, by easing removal of the tape from the roll, permit a considerably stronger adhesive to be used. The sticking of jellies, confectionery and cakes to their cartons is prevented by treating the surface with one of these coatings. Vegetable parchment or glassine treated with the coatings as the liner for frozen-food cartons, meat and fish packages are said not to stick even if the consumer removes the product before thawing. Film windows can also be given a non-stick surface with these products.

#### **SCANDINAVIA**

##### *Ideas from Norway and Sweden*

The Norwegians are producing roll-on plastic packages for deodorants with transparent bottoms so that it is easier to see how much of the contents is left, according to *Nordiska Forpackningar* (Norway). The same publication illustrates a clever idea for cigarette cartons. Instead of the usual 10-pack carton, this hinged and scored folding construction is designed for five packs of one brand *with filter* and five packs of the same brand *without filter*. The shopper may buy the whole 10, or only five, as the carton can be broken apart similarly to the dozen-unit egg carton. Its construction also has a riser for stand-up in display.

#### **ENGLAND**

##### *Self-adhesive cushioning foam*

Urethane self-adhesive plastic foam, produced in various thicknesses and in rolls of standard length, is being offered as a cushioning, shock and vibration absorbing material particularly for small instruments where light cushioning is required. According to *Packaging Review* (England), the open cell structure allows for considerable compression without increasing push-back. Stress only arises when the open pores are completely closed. The range of roll widths, from ¼ to 6 in., is designed to cover most industrial requirements for a continuous foam strip with an adhesive backing. Material 18½ in. wide is available to provide sheets

suitable for larger areas. The foam is bonded to a PVC support carrying the adhesive, which is protected by a corrugated PVC backing. The backing is easily stripped off for use and the strip of urethane foam reportedly will adhere to any clean, dry surface.

#### **FRANCE**

##### *Significant statistics on automation*

Before the introduction of semi-automatic machines to manufacture bottles (1800-1881), 36 men worked 10 hrs. to produce 8,000 bottles. By 1900 it took no more than 17 men to produce this quantity. Today, with automatic machines, one man alone can make 20,000 bottles in 10 hrs. These production figures, which were quoted from *Boisson de France*, appear in *Emballages* (France).

#### **ENGLAND**

##### *Feeding the birds—booming business*

"All our best customers wear tails," is the claim of a retail outlet at Newcastle-upon-Tyne, the first self-service pet store in Europe, according to British Cellophane's house organ, *Merchandising Vision* (England). The article states that packaging food for the beaks of Britain's rapidly expanding cage-bird population is now a £20-million industry.

#### **ENGLAND**

##### *Carry closure for shipping sacks*

A liquid, air- and dust-tight closure with the added feature of being a carrying handle as well on all types of large shipping bags is described in an ad in *Produce Packaging* (England). The closure is said to be easy to apply, reusable again and again, and is offered in four standard sizes. It can be embossed with trademark if desired.

#### **FRANCE**

##### *A leader in plastics production*

France is among the world's leading producers of plastic materials, after the United States, West Germany and the United Kingdom, according to *France Actuelle* (France). Manufacture of plastics has expanded steadily over the past several years, at an annual rate of 25% or more. In 1958, production reached 210,000 tons, a 30% increase over the 1957 figure of 163,000 tons. The most notable advances were made in polyesters, vinyl chloride and vinyl acetate. Research in the polyesters is especially active.

#### **ENGLAND**

##### *Shirts in thermoforms*

A British firm is promoting a display package for men's shirts comprised of a transparent blister, contoured to the neatly folded shirt and held in position by a backing board that slides along tracks the length of the blister. The idea, illustrated in *Packaging News* (England), may be good to permit customer examination without destroying the package.

#### **ENGLAND**

##### *Ventilated polyethylene film*

An English firm is supplying polyethylene film treated to produce minute ventilation holes distributed over its entire surface. The purpose, reported in *Packaging* (England), is to provide for a controllable degree of ventilation which can be suited exactly to the characteristics of the product that is to be wrapped, such as meats, fish, poultry, fruits and vegetables. In contrast to the practice of large punched holes, the advantage of this type of ventilation reportedly is the degree of control it permits over water-vapor transmission to restrain mold growth without allowing undue shrinkage of fresh produce or to obviate fogging or ice-crystal formation within a food pack kept under refrigeration.

For additional information, write: World Report Editor, MODERN PACKAGING, 575 Madison Ave., New York 22.

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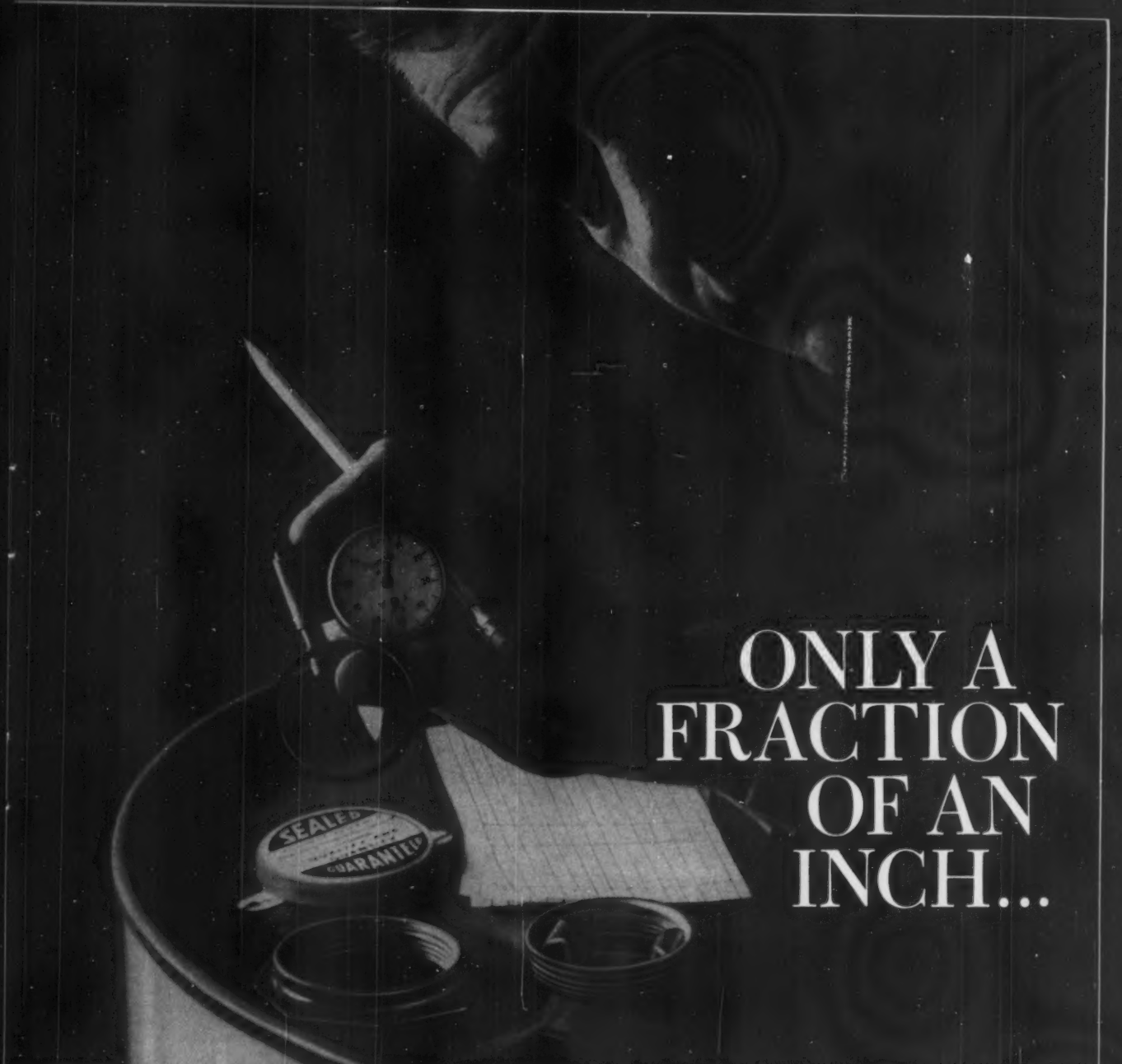
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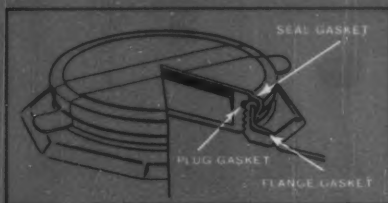
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COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

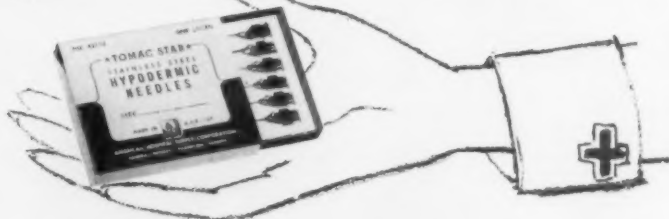
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## ROWELL DRUG and COSMETIC BOXES

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Rowell boxes, with the look and the feel of quality, assure maximum shelf-appeal. They protect delicate and precisely fashioned articles as no lesser box can.

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	Plain	Moistureproof	Barium- and Zirconium-oxide (Gloss)	Polyethylene (Gloss)	Aluminum foil	Paper & Board	Glassine	Pigment	Saran	Vinyl	Polystyrene	Acetate	"Water" & other Polyester films
ACETOPAKE													
EXCELLOPAKE 400 X-TRA	•	•		•	•	•							
FLEXORAFT						•	•						
FOILBRITE				•									
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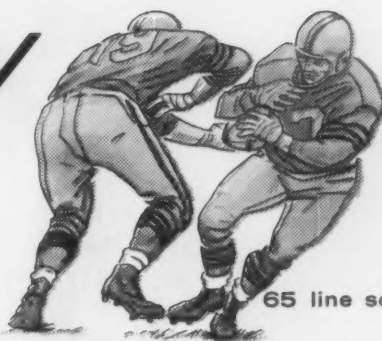
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**POTLATCH FORESTS INC.**



PAPERBOARD DIVISION - GENERAL OFFICES - LEWISTON, IDAHO

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self-opening jewel case.  
May be stored under water . . .  
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Man's packaging; less perfect,  
but making great contributions  
to modern living. Through its success  
in product protection, distribution  
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## Editorial Memo

### The race is to the swift

New packaging makes good business sense. In supermarkets, for example, it provides much of the excitement and vitality so essential to mass merchandising today. The dull, unchanged container that hasn't kept up with the packaging parade and the me-too design that follows the leader holds scant sales hope for the retailer and little impulse appeal for the shopper. This is a critical matter for packagers today for three very good reasons, based on highlights from several new marketing studies:

1. *Competition.* In eight years, the average number of items in supermarkets has more than doubled to a total of 5,000 plus. As an example of the cause, take cigarettes. There are today almost 120 different sizes and brands. As many as 20 brands sell more than one billion cigarettes apiece each year compared with only three or four dominant makes a quarter century ago. With so much obvious product similarity, the packager's only claim to superiority may be his packaging.

2. *Shelf warmers.* Both retailers and packagers pay a price for slow movers. In a recent Government survey of food retailing, less than one-half of all items studied accounted for more than 80% of the total volume of all these products. Thus, more than half of the items rang up less than one-fifth of the total sales. Among these are the shelf warmers that retailers may be forced to discontinue under the pressure of new and improved products.

3. *New items.* For proof of such pressure, consider these facts reported by *Progressive Grocer*: In just two weeks in June, 150 supermarket headquarters' buying offices accepted almost 2,000 new products and more than 1,000 promotional deals. To make room, 1,200 items were discontinued. Where do such new items come from? Procter & Gamble, as just one example, now estimates that 70% of its sales volume is in products created since World War II.

Out of these facts comes a warning to phlegmatic packagers. Just as a not-unhappy retailer wryly admitted recently that "new products give us growing pains," so should perceptive packagers recognize that smart, up-to-the-minute packaging is as much a part of modern marketing as an updated product.

For an item that is falling behind its competition, or warming store shelves on low turnover, or losing out when retailers must make the hard decisions on competing products that mean more profits at the checkout counter, it takes common sense to modernize the package as well as the product and the promotion. And it takes uncommon sense to review and perhaps revamp a package that is out front, but that can always be overtaken in the retail race.

*The Editors*

Modern Packaging, Executive and Editorial Offices, 575 Madison Avenue, New York 22, N. Y. Teletype: TWX-NY 1-3063. Cable address: "Breskinpub."

# PAPER NEEDS THE "TOUCH OF TALENT"



Seventeenth century papers used by the Dutch were generally hand made from flax or rags.

But it took the genius of a Rembrandt to turn this paper into a treasured work of art.

Paper used in today's packaging also needs a "touch of talent", to do a better sales-job for you. Nashua's talent with paper can give you packaging that helps your products make a better showing at retail level.

## NASHUA PACKAGING TALENTS AVAILABLE TO YOU . . .

Creative Design • Paper Chemistry  
Package Engineering • Coordinated Packaging  
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**NASHUA**  
*Corporation*





# IDEA EXCHANGE



PACKAGE, B. C. CASE CO.

*In packaging, keeping posted  
on innovations  
in unrelated product fields  
pays the richest rewards;  
the packager who learns  
only from his competitors  
will never have a 'first' in his field*



**The pump-type fibre can** that started out as an insecticide duster inspired the idea for the bellows package to inflate toy balloons. Now in another fantastically unrelated field, it may be headed for even greater success. As the package for Concre Grit Sprayer, it becomes a handy dispenser for a new product recommended to provide instant traction for cars stalled on icy roads or to do away with slippery steps and sidewalks.

**A** few months ago, the editor conducting our monthly *Sounding Board* feature asked a number of readers this question:

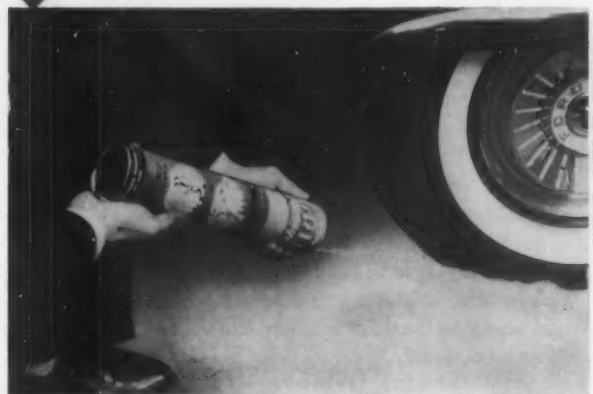
"How do you get your best packaging ideas?"

As the answers came in, they carried a strikingly repetitive refrain: "We get them from MODERN PACKAGING." This was not exactly the answer we were seeking. We finally published (March, 1959, p. 106) a selected few of the replies which went a little deeper into the question.

However, we realized that the quick identification of MODERN PACKAGING was not a testimonial merely to this magazine. It was a testimonial rather to a principle of packaging education which this magazine, alone among publications, represents.

It is a principle worth stating and restating: The elements of packaging are common to every kind of industry, covering every conceivable product—

**TO THIS**



PACKAGE, CLEVELAND CONTAINER CO.

## The flip-top

### It started with CIGARETTES

Winner of top-selling position for Marlboro in 50 states.

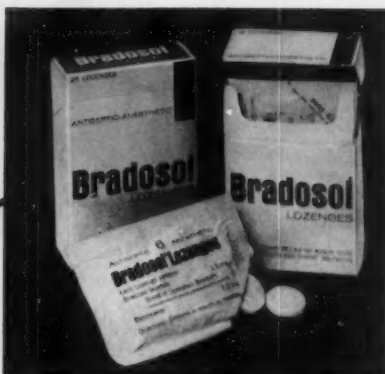


### SOIL CONDITIONER



And now a novel version merchandises fertilizer like cigarettes.

### LOZENGES



Ciba saw in it a handy pocket package for a pharmaceutical product.

### PENCILS



An adaptation of its construction makes news in the stationery field.

consumer or industrial—food, drug, cosmetic, chemical, hardware or software. The basic principles of protection, convenience, economy and sales appeal apply equally to all, be it a unit package as small as a capsule or a shipping package as big as a boxcar.

It is an indubitable fact that the packaging man who watches only what his competitors do in his own industry will never beat them on anything. The priceless, market-sweeping firsts come from constant study of packaging innovations in *other* industries—which may, with a little imagination, be adapted to his own particular product.

The most striking and successful adaptations are those which are completely unexpected.

*Consider the aerosol:* When the first one was reported in this magazine back in 1944, it was strictly a heavyweight, military, insecticide "bug bomb." A bright reader in the dairy industry had the idea that

the principle would produce a self-dispensing can of whipped cream. It was an immediate success and last year that package sold 100-million units.

*Consider the flip-top box:* It made a smash success four years ago for Marlboro cigarettes but, designed around a high-production machine, it was intended for cigarettes and nothing else. A pharmaceutical reader saw its possibilities as a pocket package for throat lozenges. Today different versions of it market crayons, plant fertilizer, tacks and paper cups as well.

*Consider the polyethylene squeeze bottle:* It was first illustrated in MODERN PACKAGING in 1947 as an atomizing package for under-arm deodorant. Within six years, no less than 2,000 other products in 30 different industries were using it.

*Consider the roll-on applicator:* Originated by Bristol-Myers for its "Ban" deodorant and first il-

lustrated in this magazine in January, 1955, the principle has since been adapted to products ranging from mucilage to garlic seasoning.

These are only a few of the examples of cross-pollination of ideas which drive home the lesson that packaging is an across-the-board subject, requiring constant attention on the horizontal scope, rather than just the vertical. Let's examine some outstanding examples in more detail.

#### Flip-top box

Actually, there was nothing very new about a box of folding construction with a scored flip-open lid,

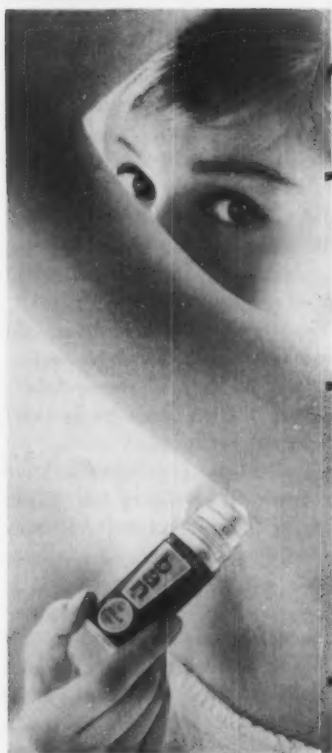
but often it's the timing of an application that thrusts a package form into the limelight and gives it the built-in promotional push that spells success for the early adapter and the "me-too's" in unrelated fields.

One carton maker likes to tell how his company tried to sell a flip-top box unsuccessfully to George Washington Hill for Lucky Strike cigarettes back in the '30s. But it was not until 1955 that Philip Morris, Inc., saw a powerful advertising theme in such a box, produced on a British machine expressly for cigarette packaging. The flip-top immediately leaped into prominence throughout the United States.

This ready-made popularity led to its adoption

### The roll-on

#### It started with DEODORANT



The successful innovator was Bristol-Myers with Ban.

#### GLUE



Within a year an adaptation of the principle was used for glue.

#### PAINTS



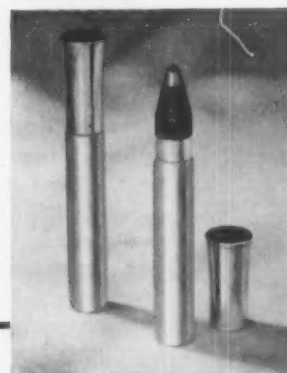
And on a collapsible tube for applying art coloring.

#### GARLIC OIL



A food processor borrowed the idea for application of salad seasoning.

#### LIP ROUGE



DuBarry's Lip Quick promotes the idea successfully for cosmetics.

## Progress in the key-opening can

### It started with

#### SARDINES

#### COFFEE

#### SHORTENING

#### NUT MEATS

#### CANDY

#### TOBACCO



*Original concept came with imports from Europe.*

*Became a standard for vacuum-packed coffee in the '30s.*

*Was adopted first for vegetable shortening by Procter & Gamble.*

*Launched a huge success for Planters Cocktail Peanuts.*

*Provided long shelf life for nationally distributed confectionery.*

*Moved out of the food field into completely new product areas.*

as a handy pocket package for a new throat lozenge, called Bradosol, made by Ciba Pharmaceutical Products, Inc. "Not only did we borrow the successful idea from the cigarette industry," says L. H. Zahn, director of Ciba's Methods and Packaging Div., "but through our good friends in the cigarette industry we were even able to have our boxes run off on that industry's machines. It never would have happened if we didn't watch all packaging."

And the idea borrowing didn't end there. The observant makers of Dixon Pencils and Crayolas saw the opportunity to promote their products in boxes they feature for their flip-open convenience. Recently, Creative Products of Woodbridge, Va., has introduced Gro-Spike, a stick-type soil conditioner, that happens to be about the size and shape of a cigarette, in a box that looks like a flip-top cigarette box and employs cigarette-style merchandising in the form of a 10-box carton.

#### The roll-on

Casting around for a dispenser that would eliminate the messiness of cream-deodorant application as well as the "drippiness" of spray deodorants, Bristol-Myers found the answer in its ingenious roll-on package for Ban. The original idea was developed in Bristol-Myers' own creative engineering department, adapted from the ball-point pen principle.

Says Ralph Thomas, director of the company's packaging research: "We never know where an idea may come from and we have to keep tabs on everything that's going on in all types of packaging. In fact, our decision to go ahead with Ipana Plus (toothpaste in a polyethylene plastic squeeze bottle of unique design) came from the food field and the trend to larger, family-sized packages."

The Ban package took hold so fast that it was rapidly copied by major rival deodorant brands. And within three months after it was featured in MODERN PACKAGING, a Brooklyn adhesive firm brought out a ball-valve applicator on collapsible tubes containing Glutex. Operated by spring action to release a metered amount when pressure was exerted on the ball, the Glutex principle differed from the revolving ball that serves as a carrier in the Bristol-Myers package, but it immediately demonstrated the diversified interest in the ball-dispensing principle. Glue was followed quickly by a roll-on fitment for tubes of Craftint Deco-Write—a coloring paint that can be applied to paper, textiles, plastics or the surfaces of other materials simply by "writing" with the ball applicator.

Early this year there appeared the most surprising roll-on application of all—in the food field for Reese Finer Foods, Inc., garlic oil—almost identical in construction to that of the Ban applicator.

Says Reese's Steve Rich, "Reading about Ban started us thinking how this idea could be used in the food field." Is it successful? The answer is a new Reese seasoning, "Roll-On Bar-B-Q Smoke," in the same type of package as the garlic oil.

And the idea moves on to still another area—a roll-on liquid lip rouge called DuBarry Lip Quick, recently introduced by Warner-Lambert. It may start a whole new trend in this product field.

#### The pump-gun

A few years ago somebody got the bright idea of packaging insecticides in a telescoping fibre can and using the bellows action of the container as a blow gun for dispensing. From this application it was a logical step to toy balloons packaged in a container



## HOSIERY



*is still inspiring unexpected uses in totally unrelated fields.*

which could be used to blow them up. This idea moved on, in larger size, to the packaging of inflatable vinyl mattresses and swim rafts—each housed in its own pump gun. It seems a far cry from this to non-skid grits—but it has happened. The pump gun will be used this winter as the working package for Concre Grit Sprayer, a new product offering “instant traction” for cars stalled on icy roads. The motorist who carries one of these packages supposedly needs only to spray a little of the contents on the trouble spot to get out of winter-driving difficulties. The Concre Co., Angola, N. Y., which makes the product, says the dispensing package is what put it over with dealers and that it is having difficulty keeping production ahead of orders.

### The key-opening can

A principle need not be new to give inspiration to a continual procession of new uses. The key-opening device that originated on imported cans of sardines became the standard method for removing the metal strip on vacuum-packed coffee cans . . . cans of vegetable shortening . . . the tremendously successful 8-oz. can of Planters salted peanuts, which offered a whole new approach to the packaging of nut meats and candies to preserve freshness and flavor.

During World War II, many a life was saved by the key-opening can that provided protection and easy opening of field rations, blood plasma and life-raft emergency kits. The key-opening device is used on cans for pipe tobacco, canned meats, rodent-killing compounds and agricultural chemicals. And it keeps going on and on finding new uses in completely unrelated product fields.

Among the surprising recent applications are for alarm clocks and—of all things—nylon hosiery, de-

## ALARM CLOCKS



*Most surprising of which are canned clocks for supermarket selling.*

signed to be stocked and sold as conveniently as cans of peas and beans off the supermarket shelf. According to the Modernage Div. of Kayser-Roth, the canned stockings, after more than a year, are continuing to go great guns.

Just as packaging ideas move across product lines, they also move readily from industrial to consumer packaging and vice versa. The packager who shuts himself up in one category or the other, and fails to expose himself to non-competitive ideas, may be missing priceless marketing advantages.

### Foamed plastics

The superior cushioning properties of lightweight, form-fitted foamed plastics were immediately recognized in industrial packaging and industrial applications continue to be among the most important uses of these materials. But—the pharmaceutical industry soon saw the possibilities of molded platforms and inserts to protect vials of expensive drugs and serums, often at less cost and more attractively than previously used protective packaging. Also, manufacturers of baby products and candy have put foamed plastics to work.

“The idea of using expanded polystyrene for the molded trays in our baby gift sets very definitely came from reading about the use of these materials in industrial packaging,” says Frank P. Coons, packaging engineer at Johnson & Johnson, who spends a large part of his time researching all packaging.

Low-cost, labor-saving trays of expanded polystyrene for boxes of James chocolate-covered salt-water taffy reportedly were adopted at the suggestion of the company’s box maker, experienced with their successful use as cushioning for drugs.

Nor is the exchange of [Continued on page 197]

# SUNDRY BEAUTIES FOR THE



**Pretty-girl and smiling-baby** illustrations emulate magazine-cover strategy. Essential copy on water-bottle packages is printed on lower third of front panel, the only area that's sure to be exposed on store shelves. Wedge-shaped construction of syringe cartons assures upright position in display.

# DRUG STORE

*Possibilities in upgrading  
of heretofore unimaginative lines  
are forcefully shown by  
new Goodrich packages, designed with  
strong feminine appeal  
for a preponderantly feminine market*

**C**an package appeal convince a shopper that she needs a new hot-water bottle? Or that baby needs a new pair of rubber pants?

B. F. Goodrich is convinced that it can—to the tune of 45 elegantly repackaged items in what it calls its prescription accessories line. In a slide film that suggests a dramatic way to introduce a new packaging program to sales forces, wholesalers and retailers, Goodrich demonstrates, point by point, the reasons behind the designs.

The story is told in a series of sophisticated cartoons drawn for the film by the design firm that developed the packages—several of which are reproduced here—humorously highlighting the various aspects of the program, accompanied by realistic color photographs of the actual packages.

The new packages, representing a completely new approach in this field and as elaborate as those usually associated with cosmetics and perfumery, should be a reminder of the attention today's packagers must give constantly to upgrading if they are to win and hold display positions in retail outlets.

The impressive program, representing probably the largest single outlay on packaging in this field, is aimed to up Goodrich sales 20% during 1960 and thereby capture a considerably bigger slice of the \$75-million annual rubber-sundries market.

One of the Midwest's leading industrial design firms was assigned to the job, working in close cooperation with the manufacturer of the boxes.

All of the packages are folding boxes of special constructions. They make use of compelling full-

**Instant recognition**—even in the nightmare of the warehouse—is the aim of identification elements. Cartoon slides dramatize program for sales forces.



**Consumer inspection**—without hassle and wrestle—the purpose behind hinged construction of new packages.

CARTOONS, RICHARD OSBORNE





**Product protection** is legend for armored knight. Packages are planned to keep contents clean and undamaged.



**Book-opening construction** of water-bottle packages facilitates customer examination, protects transparent-film window from being broken by shopwear. Complete information is easy to read inside cover. Slide-out tray provides convenient arrangement for re-using box to store product in the home.

color photographic illustrations of modern magazine-cover style, printed on top-quality, high-gloss coated stock. Their covers, opening like hard-cover books, are designed to facilitate customer examination, to improve display and to eliminate the need of large-area, transparent-film windows that too often in the past have become broken by shopwear. Their sturdy construction with slide-out trays was planned to offer a more convenient container for re-use in the home, where most consumers, it was found, store their hot-water bottles in the original box. Syringe cartons are made in a novel wedge shape to assure upright positioning. Gravity prevents them from being placed any other way.

Packaging for the less-expensive lines does not carry full-color process engravings, but also has been redesigned in construction similar to the top-quality goods, with pastel colors and delicate motifs.

The decision to adopt new packages with definite feminine appeal, using pretty-girl and smiling-baby illustrations, was based on the company's knowledge that 85 to 90% of these items are bought by women, according to Richard A. Lord, manager of Goodrich sundries sales. Yet, until this new line was introduced, not a single manufacturer has aimed his packaging at the fair sex, he says.

Items in the new-look packages include hot-water bottles, fountain syringes, folding syringes, feminine bulb syringes, infant and ear syringes and nasal aspirators, breast pumps, household bulb syringes, baby water bottles, baby pants, crib sheets and household gloves, representing about 85% of B. F. Goodrich's volume in prescription accessories.

**SUPPLIES AND SERVICES:** Design program by Smith-Scherr-McDermott, Akron 13, O. Folding boxes by Gardner Div., Diamond National Corp., Middletown, O.



**Target—the feminine market**—is symbolized by this sophisticated cartoon. New packaging approach is based on company's knowledge that 85 to 90% of sundries are purchased by women.



**Three-piece package** consists of opaque white polystyrene component for lighter (top right), transparent acetate member with tracks on two sides to hold complete assembly and paperboard base that slides into place. Because of need for state tax stamps, packaging is done in the distributor warehouses.



## Bargain in plastics

*Lorillard's combination of two cigarette packs with lighter for around \$1 shows how thermoformed plastics may be used to produce an exciting 'deal' package at economical cost*

**P**ackagers looking for a new idea in combination units that offer the "something extra" needed for an appealing get-acquainted promotion may find a solution by taking a careful look at the slide-track thermoformed blister packages appearing on tobacco counters for three brands of P. Lorillard cigarettes.

For around \$1 at his neighborhood cigar stands, the purchaser gets a handsome transparent package in which are two packs each of either Kent, Old Gold or Newport cigarettes, together with a Japanese cigarette lighter appropriately but discreetly decorated with a suggestion of the brand trademark. Since the value of the cigarettes is around 60 cents, this is an obvious bargain in a glamorous package.

The purpose, in addition to the apparent aim of winning new brand loyalties through the special offer, according to a spokesman for Lorillard, is to provide the small dealer with a sales gimmick designed specifically for his type of outlet. Lorillard, at this stage, does not plan to merchandise this package through supermarkets or other volume outlets.

Construction of the package consists of two thermoformed members: the smaller one is opaque white high-impact polystyrene especially contoured to hold

the cigarette lighter; the larger transparent cellulose acetate one fits over the two packs of cigarettes with the lighter in its separate compartment, placed between. The assembly is secured by a paperboard base which slides into place along tracks formed on the two longer sides of the transparent rectangular member of the container.

Because the packages must be assembled after state tax stamps have been applied to the individual cigarette packs, the thermoformed components are shipped to various distributors or individual salesmen, who make up the packages locally to fill orders as they are received from dealers.

The supplier of the thermoformed components has devised an efficient method of packing them nested in space-saving, corrugated shipping containers, accompanied with complete instructions for rapid, time-saving assembly at the packaging point. The idea, apparently, is so successful, his equipment is being taxed to capacity to keep up with demand.

**SUPPLIES AND SERVICES:** Thermoformed package engineered and produced by Plastic Artisans, Inc., Port Chester, N. Y., using Celanese and Joseph Davis acetate and Gilman Bros. high-impact polystyrene sheet.

*Falling behind growth of its market,  
70-year-old Nature's Remedy  
boosts volume and cuts costs by  
updating design; new equipment  
offsets 10% higher cost of materials*

## Sales remedy:

# REPACKAGE

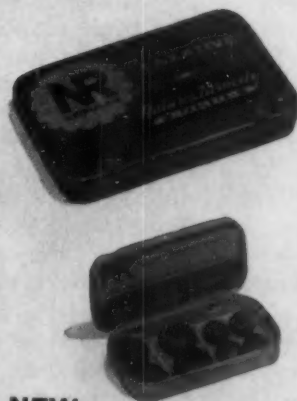
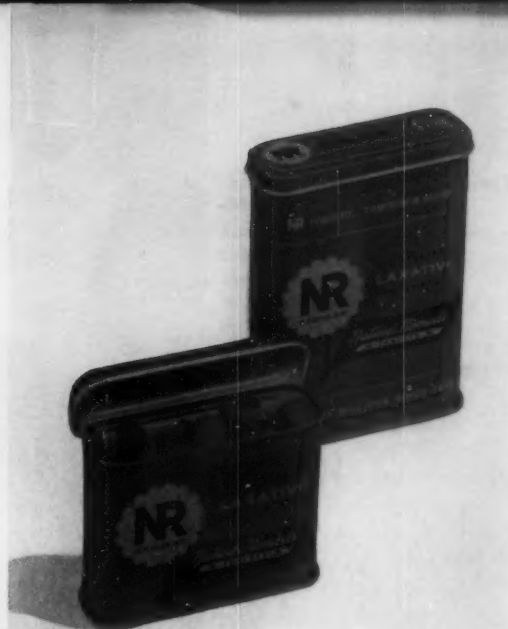
**E**ying the frequent entry and too frequent demise of new packages and new products in today's volatile market, packagers of long-established products which have carved out a comfortable niche for themselves often wonder whether to update or leave well enough alone.

Nature's Remedy, a vegetable laxative successfully marketed for nearly 70 years by the Lewis-Howe Co., St. Louis, posed just such a problem. Sales of NR—companion product of Tums—had been holding steady for some years. But the number of older people—considered NR's primary market—has been rising sharply in the U. S. Yet NR wasn't gaining ground. The company's decision after careful study: Keep the product as is, but modernize the package.

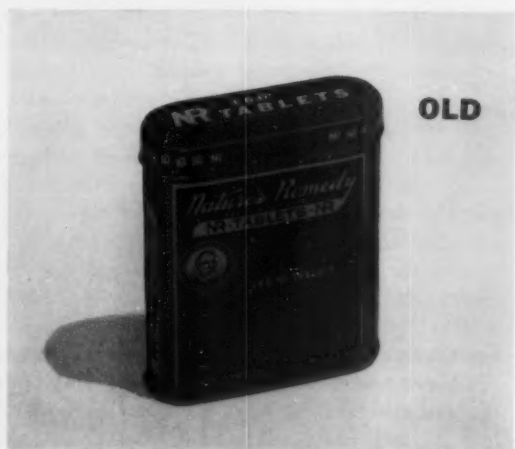
NR's familiar lithographed tin is now sporting a handsome new surface design and new user convenience features. Through adroit use of color, the product's three varieties are easily distinguishable, yet maintain strong family resemblance. Self-service selling is encouraged with a new tray pack.

There are new production efficiencies also. NR has added a versatile new tablet counter for greater output and has modified its overwrapping machines for greater efficiency. NR's new counter is said to be the only one on the market which can fill three different sizes of tablets into the same container

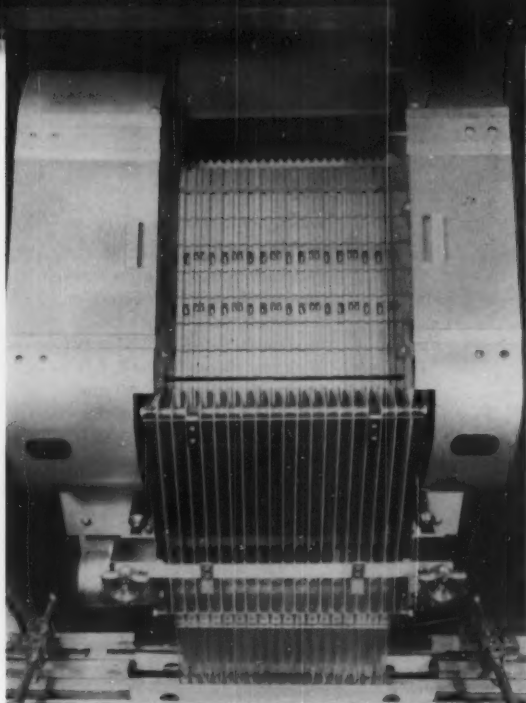
**Crisp, uncluttered design** of new packages contrasts sharply with busy, old-fashioned can. Note three types of tablets packed in smallest container.



**NEW**



**OLD**



**Tablet counter** (left) fills four sizes of cans. Here counter is set to fill smallest container with each of three tablet sizes. Tablets ride downward in holes in horizontal plastic slats and drop through guides and plastic tubes into containers below. Plastic slats (right) are changed in 15 min. to accommodate different sizes of tablets.

automatically, a technique required for packaging NR's small "convincer can," a sample tin containing all three different tablet varieties.

Moreover, the packaging line has been speeded up by switching to a continuous straight-through operation on which all three varieties can be handled individually. They were formerly packaged semi-automatically—according to the variety of tablet—in three separate packaging areas.

Results so far are gratifying. Sales response is said to be picking up. Distribution is broadening. A 10% increase in packaging material costs is more than offset by a 75% reduction in direct packaging labor and a packaging speed three times as fast as the previous rate of production.

In developing a completely new graphic design for NR, the design firm could clearly see the dangers inherent in a radical package change for a product which had been on sale for generations. Yet, other than continued use of a lithographed can, there appeared to be few components of the old design which could be successfully transplanted. The old packages for "regulars," "candy coateds" and "juniors" bore no relation to each other except for the NR logotype. Early research indicated that customers who frequently bought one type of NR tablets were unaware that the other two existed. The point of having three varieties is, obviously, to give the customer a choice suitable to his particular needs. It was imperative that all three varieties acquire an individual identity within the over-all brand image.

A stylized daisy symbol finally selected offers:

1. Strong visual impact even in the small size;
2. A suggestion of the product's purity of ingredients, i.e., "derived from nature;"
3. An attractive effect in combination with the established NR logotype and the full product name, Nature's Remedy.

The initials NR appear in black in the center of a white daisy—simply a circle with scalloped edges. A stem and long, horizontal leaf are black. The full name "Nature's Remedy" and the words "NR—Tablets—NR" are printed in white against the black leaf. The word "laxative" is in white and is given more prominence than on the old packages to offset the somewhat ambiguous brand name.

Differentiation of varieties is accomplished by color. Since the old package for regulars was red, red is maintained as the background color for this variety. Both junior and candy-coated types were primarily blue. In the new package, blue is used to identify juniors; apple green is now the basic package for candy-coated tablets. It's felt that the shopper exposed to one of the new NR packages will be able to identify the brand in either of the other varieties without reading any copy. The daisy symbol is also serving as the core for all of the company's advertising and promotional graphics.

NR has adopted a new hinged lid to replace a "slip-cover" or friction lid previously used. The new ones have rolled edges to prevent cut fingers.

To maintain a "folksy" rapport with long-time customers, a new line of copy on the inside of the lid reads: "Dear Friend: While there has been no



**Packaging line** starts in background where packages are manually loaded on short intake conveyor. From tablet counter, containers move to left for inspection and hand stuffing of literature. In foreground, lids are taped and containers are placed in paperboard trays prior to cellophane overwrapping.

change made in the NR tablets, we have for your convenience restyled the package—hope you like it. Cordially yours, J. H. Howe, President.”

For the first time, NR is making a concerted bid for self-service sales by means of a new tray pack. Formerly, multiple tins were packed in a tucked-flap display carton with a surface design as busy and cluttered as the tins. Again, there was no family resemblance or integrated design. Now these complicated and expensive die-cut cartons have been replaced by paperboard trays overwrapped in cellophane which prominently display the product.

For the 29-cent tray packs in all three varieties, a separate insert is attached to one can with double-edged pressure-sensitive tape. When the cellophane overwrap is removed and the insert set into the tray, the can becomes part of the display. By setting up the display, the retailer automatically removes the first unit from the tray pack. This is based on the psychological theory that some customers will hesitate to disturb a complete display.

Shipping containers, too, have been redesigned. A mottled white “oyster-board” outer liner has replaced standard corrugated. Printing is now in red and black instead of all red and the daisy motif is prominent on all faces of the shipper.

#### **Packaging line**

Key to NR’s improved production efficiency is the new tablet counter which packages the three varieties of NR in three can sizes. The counter also automatically fills NR’s convincer can containing a combination of two regular tablets, two candy-coated tablets and four juniors.

At the beginning of the company’s continuous L-shaped line, cans are placed manually on the two rows of the counting-machines’s short intake conveyor. Air cylinders control the line of cans, allowing the proper number in each row to be positioned

alternately under the manifold of the counter for the filling operation. This counting machine operates on the principle of passing a number of moving slats, mounted horizontally on an endless chain, under a tablet hopper. The slats have holes in them of the correct number, size and shape to count the items being packaged. Tablets feed from the hopper into the holes and are conveyed downward to the waiting cans. The machine runs continuously as the automatic index conveyor brings empty cans to the filling stations and discharges filled cans.

Slats can be switched from one tablet type to another in about 15 minutes. Down time runs to about half an hour if the tablet count for larger or smaller cans is also being changed.

Regardless of can size being filled, tablets slide downward from the tablet machine on the fourth floor to the second-floor packaging department through a tube which feeds directly into the hopper mounted at the back of the counter above and behind the chain of slats.

The trick to filling the convincer can is a plastic divider for the hopper which has 18 vertical divisions that keep the three sizes of tablets separate from each other as they feed downward into the slat orifices. When convincer cans are being filled, the hopper must be stocked manually.

The candy-coated tablets fill at a slightly faster rate than the uncoated tablets. Speeds vary from approximately 6,000 tablets per minute for bulk filling the \$1.29 size to 2,400 [Continued on page 211]

**SUPPLIES AND SERVICES:** Package design by Royal Dadmun & Associates, 1118 N. Calvert St., Baltimore 2. Lithographed hinged-top tins by J. L. Clark Mfg. Co., Rockford, Ill., and Continental Can Co., 100 E. 42 St., New York 17. Paperboard trays by Gardner Div., Diamond National Corp., Middletown, O. Model 56-10A “Count-All” tablet counter by Merrill Machinery Sales Co., 1243 W. Belmont Ave., Chicago 13.



# WINNERS IN FLEXIBLE PACKAGING

*Awards in  
National Flexible Packaging Assn.'s  
fourth annual competition  
reveal improvements in  
design and construction,  
with greater emphasis on  
protective combinations of materials*

**W**inning entries in the National Flexible Packaging Assn.'s fourth annual Flexible Packaging Competition provide convincing evidence of continued improvement in the design and construction properties that help create and perpetuate product sales. The awards were announced at NFPA's fall meeting in White Sulphur Springs, W. Va.

Chief trends in flexible packaging to be spotted among the competition's 127 award winners were:

- Broader and more expanded use of easy-opening and reclosure devices.
- Greater emphasis on product protection, through use of flexible packaging materials in combination.
- A higher level of quality in printing and surface design, particularly on polyethylene.
- Increase in boil-in-the-bag and unit packaging.
- More careful attention to such self-selection necessities as price marking and color coding.

Aluminum foil and polyethylene film—unsupported and in combination with other materials—cropped up repeatedly among prize-winning entries in the competition.

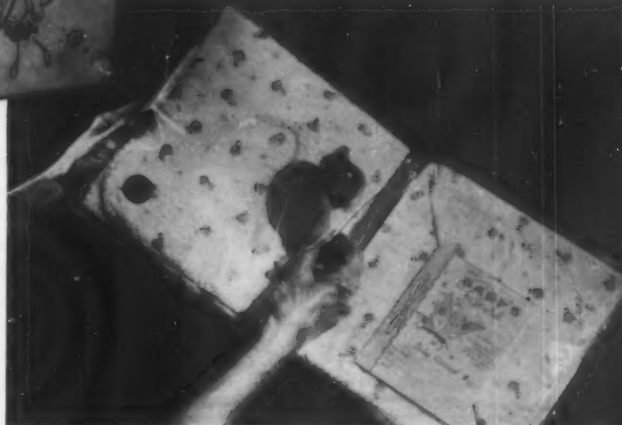
A total of 26 first awards was made in two general

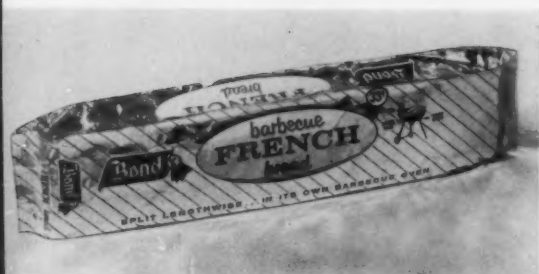


**President's  
award**

**Outstanding** flexible package of the year, recipient of NFPA's top award, is Triboro Quilt's 3-mil polyethylene baby-gift "book" package of four related items. It is made from tubular film, heat sealed along the top and bottom edges.

A slit down the center of the inner face of film facilitates product insertion and removal. Package opens and closes like a book; design printed on the outer surface heightens the effect. It also won a first award in the category: Soft Goods, Wearing Apparel. Package by Equitable Paper Bag Co. Design by E. Von Hartmann, Creators Art Service.





**Aluminum foil** laminated to bleached sulphite makes an attractive and functional sealed bag for General Baking's Bond French bread. Foil bag, claimed as a first in this huge product field, increases bread's shelf life. Product can be heated in the bag before opening. The package also won a first award in the competition's Foil Bags and Pouches category. Bag by Paramount Packaging Corp.

## 'Breakthrough' awards: wider fields



**Sturdy** opaque polyethylene bag for Pioneer's hybrid seed corn was selected for a "breakthrough" award because it symbolizes a major new industrial use for heavy-gauge film. The 10-mil-walled bag (which also took a first award in the Industrial Products category) maintains product moisture content, protects handlers against fungicide dust and survives drops without bursting. Its opacity minimizes light entry, to improve seed-corn germination. Bag by Rexall's Chippewa Plastics Co. Div.



**Dual symbolism** of flexible packaging for liquids and use of film containers for samplings and unit service was basis of award to Corn Products' polyethylene-saran-cellophane pouch for sample of Nu Soft liquid water softener (also second award in Pharmaceuticals, Drugs, Cosmetics and Chemicals). Tear-open package saves in initial cost, automatic loading, shipping cost. Pouch by Dow Chemical's Dobeckmun Co. Div.

classifications: package construction or material, and end use. Three packages won top awards in both classifications. In addition, four "market-breakthrough" awards were given. These were presented to flexible packages for products which were previously non-packaged, or which had never before been marketed in converted flexible packaging. These are described with the accompanying illustrations. Two "breakthrough" winners also took top honors in specific competition categories.

But the big star of the competition—winner of the President's award as the year's outstanding flexible package—was a polyethylene "book" package for Triboro Quilt Mfg. Co.'s baby gift set.

This package makes a single sales unit of four related items formerly sold separately. It is formed from a tubular web of 3-mil film, cut to a length of about 10½ in. The top and bottom edges are closely heat sealed; a full-length slit down the center of the inner face of the film package forms a two-compartmented unit. One compartment holds a bath towel and a foam-plastic toy; the other, a receiving blanket and a record booklet. Paperboard stiffeners in each compartment add rigidity to the package, which folds

at the center to give the effect of a book. Flexographically printed design (in red, gold and white) on the outer face of the package heightens the "book" motif.

Flexible packages which won first awards in the 1959 competition's 28<sup>+</sup> categories (other than those described with the illustrations) are as follows:

**Paper Bags and Non-Frozen Prepared or Convenience Foods:** This dual award went to Quaker Oats Co.'s reclosable "coffee bag" for Aunt Jemima pancake and waffle mix. Lower in cost than the standard carton, it is made from 50-lb. supercalendered coffee-bag stock and 40-lb. kraft. Bag by American Bag & Paper Co.

**Pre-Print Waxed Bags:** The duplex bag for Artie's Food Products' potato chips has a supercalendered, opaque, waxed-sulphite outer liner and a waxed-glassine inner liner. It is an effective moisture barrier and inhibits the passage of ultra-violet rays. Bag by Dixie Wax Paper Co.

**Polyethylene Bags and Pouches and Soft Goods, Textiles:** Another double winner was A. P. McAuley Co.'s 1¼-mil polyethylene bag for a bedspread. Its

\*No first award was presented in the category: "Laminated and Extrusion-Coated Sheets and Rolls."

## for flexible packaging



**Flavored ice** in tube containers made of polyethylene extrusion-coated cellophane is said to herald the entrance of film packaging into the frozen-confection field. Gold Mine Icicles, made by DCA Food Industries, are squeezed up from bottom of tube as they are eaten. Consumer unit, a strip package of four tubes, each with a different flavor of ice, is filled and sealed automatically before freezing. Printed film by Milprint.

surface design—minimum copy and an off-center product illustration—makes good use of polyethylene's improved transparency to permit visual inspection. Bag by Stylecraft Packaging Service; design by Calvin Merrill.

**Cellophane Bags and Pouches:** Bright package colors, modern illustration technique and the use of typewriter-style copy made a winner of the self-selection bag for a line of panties made by Laskin Bros. of Philadelphia. Pertinent data—price, size, color and product description—are printed across the top of the bag. Bag by Wrapture, Inc.

**Miscellaneous Film Bags and Pouches:** A colorfully printed, metalized polyester bag makes a year-round gift package for Cresta Blanca wine. A length of decorative twine secures the bag at the neck of the bottle. Knotted ends of the twine suspend a gift card and booklet. The low-cost bag also won a second award in the category: *Beverages and Tobacco*. Bag by Dow Chemical's Dobeckmun Co. Div.

**Laminated and Extrusion-Coated Bags and Pouches:** Winner was the pouch-in-carton for John Middleton, Inc.'s Cherry Blend pipe tobacco. Pouch materials are glassine, 0.00035-in. aluminum foil and

1-mil polyethylene. The tear-tape-opening pouch is reported to provide better moisture retention at lower cost than the metal can it replaces. The package also won a merit award in the *Beverages and Tobacco* category. Pouch by Continental Can's Flexible Packaging Div.

**Paper Sheets and Rolls:** The carton overwrap for Fulham Bros., 4 Fishermen rock lobster tails is dampened and supercalendered bleached waxed sulphite. Also a merit-award winner in the *Frozen Foods* category, the overwrap was singled out for excellence of surface design. Overwrap and design by Crown Zellerbach's Western-Waxide Div.

**Cellophane Sheets and Rolls and Paper Goods:** Still another recipient of two first awards was Hudson Pulp & Paper's printed cellophane overwrap for two rolls of white and pastel-colored paper towels. Design on the face of the transparent package makes product points effectively, yet permits full visibility of the rolls inside. Overwrap and design by Cellu-Craft Products Corp.

**Polyethylene Sheets and Rolls:** Duomak, Inc., widens the appeal of Pixie marshmallows by marketing them in four polyethylene pouches, each printed with a different serving illustration. Otherwise, design elements are consistent among all packages for strong family identity. This entry also captured a merit award in the category: *Dry Grocery and "Snack" Items*. Pouches and design by Milprint.

**Foil Sheets and Rolls:** Individually wrapped ice-cream slices, packed one dozen to a folding carton, are making sales for Cabell's, Inc. The wraps are embossed aluminum foil laminated to tissue. They are said to promote faster freezing and to keep ice cream frozen longer at room temperature. The packaging also won a merit award in the *Frozen Foods* category. Wraps by Reynolds Metals.

**Miscellaneous Films, Sheets and Rolls:** The new wrapper for E. H. Koester Bakery's Mr. Big bread combines the transparency, softness and protection of polyethylene with the easy sealability of waxed-paper end panels. The 1¼-mil film wrap also won a merit award in the *Dry Grocery and "Snack" Items* category. Wrapper by Milprint.

**Household Packages:** Globe Import & Export bids for self-selection sales by packaging a bridge-table cover in a film bag with hang-up paper saddle. The transparent package (also a merit-award winner in the *Sporting Goods, Toys and Games* category) invites shopper attention to bidding and playing tips printed on the table cover. Hang-up bag by Tower Packaging Co.

**Fresh Foods:** A four-color-printed polyethylene bag makes an attractive package for Gamble Robinson's Snoboy fresh potatoes. The bag's twist top offers the convenience of [Continued on page 200]



## Now, foil for light bulbs

With the trend toward improvement of the prosaic household light bulb, packagers in this competitive product field are finding it imperative to inject new sales appeal into the traditional (and protective) single-face corrugated-paper sleeve in which the bulbs are marketed.

A stand-out example is the gleaming, gold-colored foil-laminated multipack sleeve adopted by Penetray Corp., Toledo, to introduce the "longer-life" Date-a-lite light bulb. The bulb has an etched spot on its surface, on which the user jots down the date it was installed. Free replacement is offered if the bulb burns out in less than two years.

Rotogravure printed to project an image of high quality, Penetray's new foil multipack contains two light bulbs. Each is packaged in the conventional, non-foil, printed corrugated-paper sleeve. The colorful twin packs are merchandised from a self-selection bulk-display carton. A printed riser calls attention to the product's longer-life and date-it-yourself features. *Multipack sleeve by Hankins Container Co., Cleveland 35, using foil-laminated corrugated paper supplied by Anaconda Aluminum, Louisville 1, Ky. Printing by U. S. Printing & Lithograph Co., Cincinnati 12.*

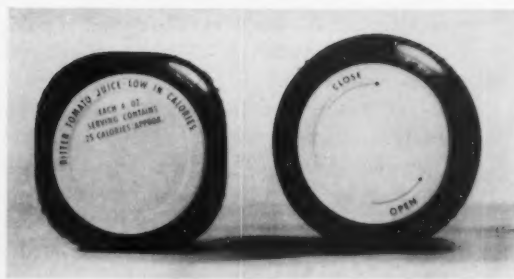
# IDEAS

## Squaring the circle

Greater functional value and increased consumer appeal are the advantages reported by P. J. Ritter Co. since changing the shape of its glass tomato-juice decanter jar from round to "rounded square." The flattened sides of the new 32-oz. wide-mouth container are calculated to make it easier to grip when pouring out the contents and also to achieve space economy on store and refrigerator shelves. Comparative widths of the old and new jars can be seen in the photograph shown at the upper right.

The packager also points out that the decanter's flattened sides make it easier for retailers to maintain label alignment in shelf display. All brand and product data are printed on a shrink-type cellulose neck band and on the jar's replaceable lug cap.

Re-usable as a refrigerator jar, the new decanter has a blown-in marking at the 24-oz. level. This feature, says Ritter, is a valuable guide for adding water to concentrated juices. *Glass jar by Armstrong Cork, Lancaster, Pa. "Cel-O-Seal" neck band by Du Pont, Wilmington, Del., and supplied by Armstrong. "Twist-Off" cap by Continental Can's White Cap sub., 1819 Major Ave., Chicago 39.*







## Three-way dispenser

Timed to coincide with the onset of winter is the introduction by McKesson & Robbins of a three-sided, gravity-feed counter dispenser for Duo-Aqua-Drin throat lozenges. A new non-prescription product, the lozenges are packed 12 to a polyethylene-stoppered glass vial, which is marketed in a rectangular folding carton.

The vertical, space-saving metal dispenser contains 36 cartons, 12 in each of its three open-channeled faces. As the bottom carton is removed, the ones above slide down the channel, so one package is always in place for easy pick-up by consumers.

Open construction of the self-selection dispenser affords repetitive impact to brand and product copy printed on the cartons. It also gives the retailer a quick visual check of stock. Additional cartons are loaded into the top of the merchandiser as needed. Printed around the dispenser's enclosed top are copy and cartoons that point up the product's action. Bold price spots on each side encourage impulse purchases. *Dispenser by Advertising Metal Display Co., 4620 W. 19 St., Chicago. Polyethylene-stoppered glass vials by Kimble Glass Co., sub. Owens-Illinois, Toledo 1, O.*

# IN ACTION

## Touch-of-spice sifter plug

A molded-polyethylene plug fitment adds shaker convenience to the decorative apothecary-style glass jars used by John Wagner & Sons, Hatboro, Pa., for a line of spice products. The snug-fitting plastic insert permits sift dispensing of small quantities of spice. It can be removed when larger amounts are required.

The new shaker fitment, which resembles ground glass in appearance, was designed to complement the eye appeal of the packager's table-use spice container. The portion which extends above the top of the jar fits into the hollow base of the container's glass-stopper closure. When the jar is capped, the plastic fitment is almost invisible.

The private-mold, cylindrical polyethylene shaker, produced in Wagner's own plant, is mechanically inserted into the neck of the jar. A molded-in ridge about half way down the fitment's length seats on the lip of the jar, so that the plug cannot be forced completely into the container during first and subsequent insertion.

A brandless foil label on the jar contains no copy except the name of the spice. *Jar by Owens-Illinois, Toledo 1, O. Foil label by Foxon Co., Providence 1, R. I.*



# High speed for



**Tiny plastic bottles** for sterile ophthalmic solutions pose special handling problems for Alcon Laboratories because of the multiple steps involved in assembling this squeeze container and the inherent light weight and low slip properties of blow-molded polyethylene bottles. Note special tear-opening tab on the large bottle, which readily enables consumers to remove the cellulose band. The polystyrene vial and cap are additional protection for the container.

**W**ith several bellwether packagers on the verge of a major swing to polyethylene bottles,\* packaging engineers in many fields are concerned with the availability of machinery to handle these tricky lightweight containers. Now, from Texas, comes evidence that many of the problems of sorting, filling and sealing blow-molded plastic bottles can be solved with automatic packaging equipment such as has recently been assembled at the Alcon Laboratories, Inc., at Fort Worth.

Set up to handle 5- and 15-cc. squeeze bottles for some 40 different sterile ophthalmic solutions, the new line ties together eight new or modified pieces of equipment in a speedy straight-through operation that stretches 111 ft., occupies four rooms and performs all packing operations from sorting to labeling on the miniature bottles without their being touched by hand. Only the final overpackaging of the bottles in polystyrene vials is done manually and only because this operation provides an

opportunity for inspection of the packaged product.

The new line has boosted output per manhour by 157%—even during the 85-bottle-per-minute run-in period. Output will jump to 367% over previous 33-per-minute hand packaging as soon as the line reaches its full capacity of 120 bottles per minute.

Much of the equipment on this line was specifically designed for the small, cylindrical pharmaceutical bottles, which measures  $1\frac{7}{8}$  and  $2\frac{1}{2}$  in. high. But the unusual techniques that were worked out for unscrambling, filling, plugging, capping, banding and labeling these bouncy bottles are equally applicable to the larger plastic containers now used for detergents and proposed for other products.

Essential to the successful movement of polyethylene bottles are (1) an efficient unscrambler and (2) conveyors that offset the low slip properties and instability of plastic containers.

Here are Alcon Laboratories' methods:

On this non-stop line, there is a new sorter or unscrambler that automatically separates bulk-pack-

\* See "Big Push on Plastics," MODERN PACKAGING, Oct., 1959, p. 109.

# plastic bottles

*An eight-step, straight-through line for liquid ethical drugs at Alcon Labs handles tricky polyethylene containers at 120 per minute with combination of new unscrambler, seven modified units and special conveyors*

aged bottles and aligns them in an upright position on a feed conveyor—a very delicate mechanical operation that also requires the utmost adherence to standards in both the shape of the bottle and its dimensional specifications.

## **Unscrambler**

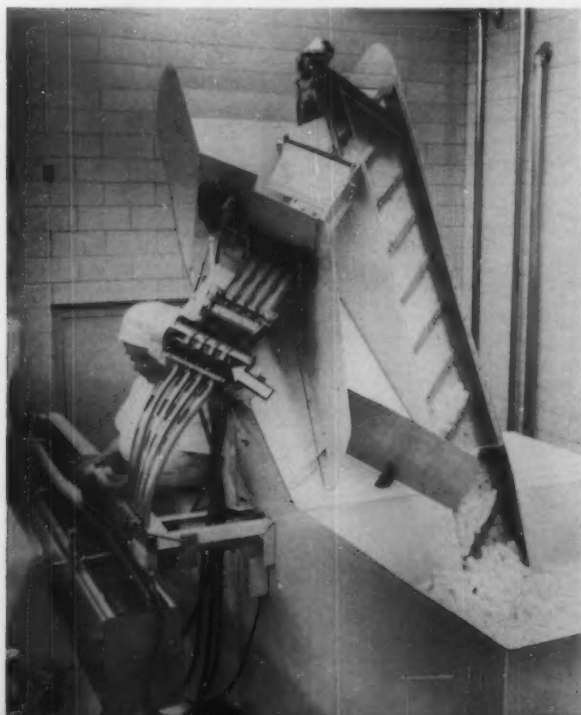
Initial feed is by means of a canted and diagonally flighted elevator, which raises the bottles from a bulk hopper and discharges them into a canted four-lane track, where the bottles are aligned longitudinally but with no regard to neck position. The elevator overfeeds the track in order that it may be kept full, the surplus bottles tumbling back to the hopper via a chute.

A driven rubber roller relieves back pressure on

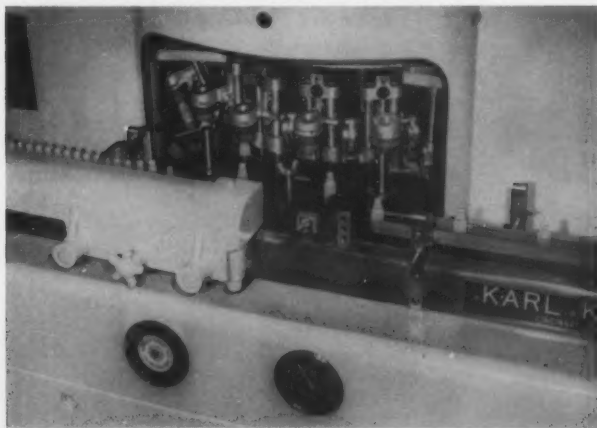
the bottles in the multi-lane track as they slide to a set of indexing fingers that permit four bottles at a time to enter a series of four individual steel cylinders, drilled along a diameter to accept one container each. Four fingers, which are mounted over the cylinders and revolve in a 180-deg. arc, are so designed that if a bottle is positioned in the cylinder neck down, the finger will catch the bottle and spin it and its cylinder over, thus positioning the bottle, neck up, on the inclined track. If the bottle is already upright, the finger slides over the bottom of the bottle and does not change its position.

Bottles then slide down four tubular tracks to a reciprocating piston that pushes the four containers onto a link-type feed conveyor. Here, acceleration of the lightweight containers is critical, since they

**Unscrambler** for bulk-shipped bottles employs canted elevator and four-lane track to align containers. Unique device for depositing the bottles in upright position incorporates center-drilled cylinders (arrow) and rotating fingers that revolve any bottles sliding down the track neck first (as shown). Bottles then slide to reciprocating arm that pushes them out on main feed conveyor.



**Cleaner** is an adaptation of a standard bottle unit, which grips plastic containers between nozzle and base, rotates them 180 deg. and removes foreign particles with an air blast and vacuum suction.



topple easily. This problem was solved with a carefully controlled air jet directed at the upper portion of the bottle to balance the acceleration forces.

### Conveyors

One of the biggest problems was the conveying system between the packaging units. The problem was solved by employing a link-type nylon belt that stretches from the unscrambler to the cellulose bander. Stainless-steel belts then run through the dryer and labeling machine. Materials for the dead-plates between various belt sections range from stainless steel and nylon to chrome-plated black steel. Different types of materials must be used at different points to achieve success, since differences in acceleration require varying coefficients of friction to insure stability of the containers. All steel guide rails are fully adjustable, as are the belt speeds to enable fine control of bottle movements.

Most of the rest of the equipment on the line, with the exception of a special dryer, are standard machines which have been modified to handle the small plastic bottles from cleaning to labeling.

### Bottle cleaner

Cleaning of the small bottles is done on a rotary machine that needed only minor modifications. Mounted on the rotary head are spring-loaded tables and nozzles that grip the individual bottles. Cam action turns assemblies upside down for the cleaning operation.

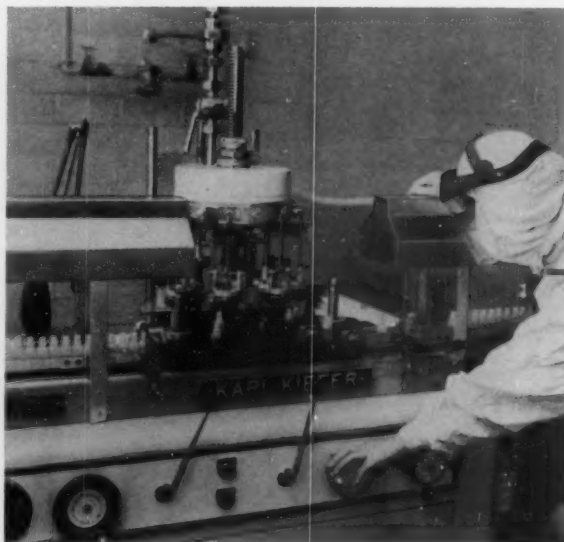
Foreign particles are removed by a 15- to 18-in. vacuum, followed by a 50-lb. air blast. Bottle producers say that larger bottles, which are easily collapsed, can also be handled on this type of cleaning equipment with relatively simple reductions in spring tension, air pressure and vacuum. From this critical point, Alcon's bottles move to an equally important operation in this packaging set-up.

Because Alcon's products are sensitive ethical drugs, the inner surfaces of the bottles must be sterilized. Thus, after cleaning, [Continued on page 188]

**SUPPLIES AND SERVICES:** Bottle sorter by U. S. Engineering, Long Island City 1, N. Y. Bottle cleaner, sterilizer and filler by Karl Kiefer Machine, Cincinnati 2. Plug inserter and capper by Consolidated Packaging Machinery, Buffalo 13. Cellulose bander by Gisholt Machine, Madison 10, Wis. Dryer by Miskella Infra-Red, E. 73 & Grand Ave., Cleveland 4. Lateral-curve conveyor by Island Equipment Corp., Miami 38, Fla. Thermoplastic labeler by New Jersey Machine, Newark, N. J. Polyethylene bottles by Plax, Hartford, Conn., and Service Engineers, Fort Worth. Polystyrene vials and caps by Lone Star Plastics, Fort Worth, and Service Engineers. Consulting engineering by Lyttleton Packaging Machinery Co., Houston 6.

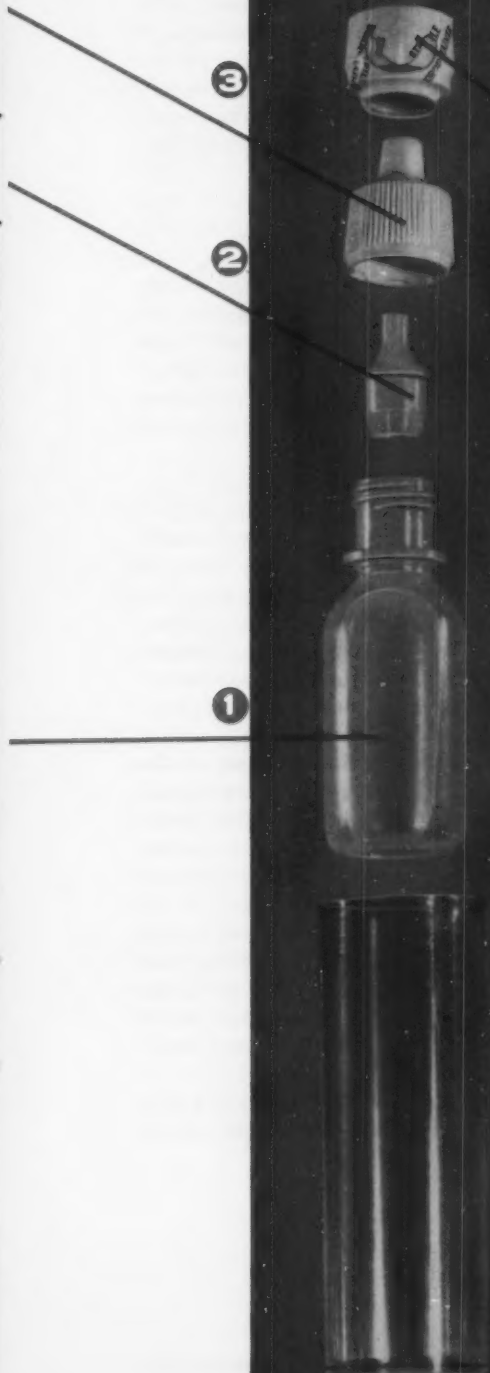


**Plugging and capping** operations are conducted on two special but similar machines (left and right). The components are sterilized in vibrating feeders (top), then travel down slotted tracks to pick-off plates (arrow). The rotary chucks finally push the plugs or screw caps into place.



**Piston filler** utilizes a positive-displacement pump to supply each of eight heads. Filling is done under slight pressure, with bottle held loosely between lifter and nozzle. Note hoods containing ultraviolet lights before and after filling operation.



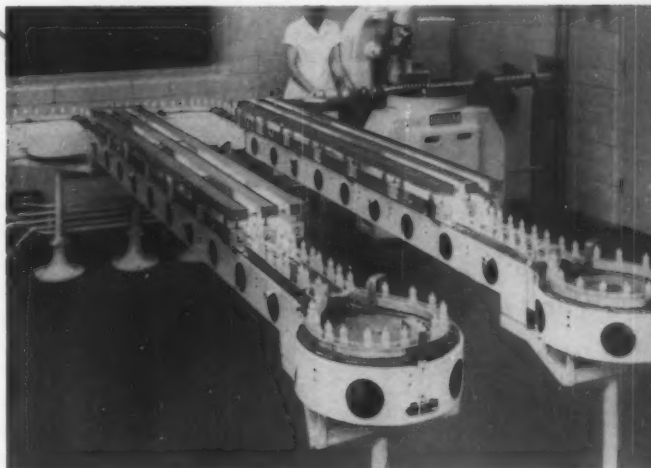


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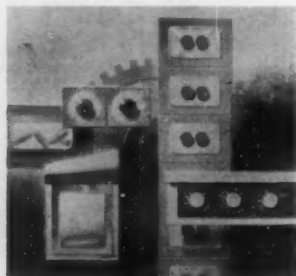
**Thermoplastic labeler** incorporates continuous roll feed to insure against accidental mislabeling of products. Automatic rotary knife separates individual labels, which are coated with a special heat-activated adhesive compatible with the polyethylene containers.

4



**Cellulose bander** (rear) applies safety seal to bottles, which are then conveyed in looping paths through special banks of quartz lamps that dry and shrink the band in about three minutes.

### Five steps in automatic assembly of basic package



THIS MONTH'S COVER

## STRIP PACKAGING

*The idea of packaging  
into compartmented strips  
that would provide  
a unit of product  
for a single use  
goes back 42 years—  
but it stands out today  
as one of the  
highest achievements  
in modern packaging*

**T**he tiny, disposable, sealed packet that holds just enough product for a single dose, a single pre-measured portion, or an individual service may be the closest approach yet to the ultimate in packaging. The idea is now just 42 years old. Certainly the principle of producing these tiny packages, which are formed, filled and sealed at great speed on some of the most advanced equipment and machinery in the packaging field, represents one of the *Great Packaging Discoveries* of modern times.

So diverse are the products of this basic discovery today that even the terminology becomes confused. The strip package, when separated into units, is also properly called a unit package—or, more specifically, a unit-of-use package. But many other unrelated packages are also units and units of use. So, for the purposes of defining this particular discovery, we call it "strip packaging," derived from the fact that all packages in this category are small, single-use, flat packets originating from strips of flexible materials fed from rolls into high-speed machines that form, fill and seal them in one continuous operation, whether they are finally cut into individual units or not.

The two men who started it all were the late Roy L. Salfisberg and Lloyd I. Volckening, now president of the Ivers-Lee Co., Newark, N. J. They jointly developed the idea and it was their per-

sistance that turned an initial failure into a success and created a whole new area of packaging. Their early recognition of the potentials, first of cellophane and subsequently of the many other protective, heat-sealing, machinable films, foils and combinations, contributed much to the efficiency of flexible packaging materials generally.

The story begins in 1917 when the American Seed Co. of Newark, N. J., started packaging strips of seeds, spaced at intervals, in a glued paper fold. The idea (recently accomplished with miscible PVA film—see MODERN PACKAGING, Aug., 1959, p. 94) was to simplify gardening by providing a strip of seeds that could be put in the ground where the paper would disintegrate. The seed company hired a gifted young engineer, Roy L. Salfisberg, who designed and built the ingenious machine that would make and fill the strips mechanically. All went well until shipments of the special, porous, adhesive-backed paper from Japan were cut off by World War I. An American-made paper, thought to be similar, proved a failure and the idea died.

One day Mr. Salfisberg told the sad story to his dentist. "Why not use the machine to package pills?" the dentist suggested, pointing out the convenience of protected single units that could be carried in the pocket and taken at prescribed times. The same dentist happened to mention the incident to another one of his patients, Jacob Oppenheim, who was then the chairman of the board of Kelly Springfield Tires.

Oppenheim was quick to see the possibilities. He retained Salfisberg to head up engineering development, picked lawyer-trained Lloyd Volckening from Kelly Springfield's sales department to handle the business end and put up the money to form the Ivers-Lee Co., which began to strip package pills in waxed paper in November, 1919. Behind this name grew a partnership between Volckening and Salfisberg that lasted until the latter's death in 1950.

The original machine sealed pills or tablets in individual pockets in a strip of inside-wax-coated paper, zig-zag folded in desired lengths and over-all

sprayed with wax. The package was done on a contract basis in the company's own plant. But the idea at first seemed limited and the business was not big.

Then came another *Great Packaging Discovery* that opened up unlimited possibilities. From France during the '20s had come the exciting new transparent film, subsequently developed by Du Pont and Sylvania as moistureproof, heat-sealing cellophane. It was a natural for the drug industry, which saw in this the answer to a clean, see-through, economical, protective material that would appeal to the medical profession, particularly for sampling. And it had the advantage of efficient handling for high-speed machine production.

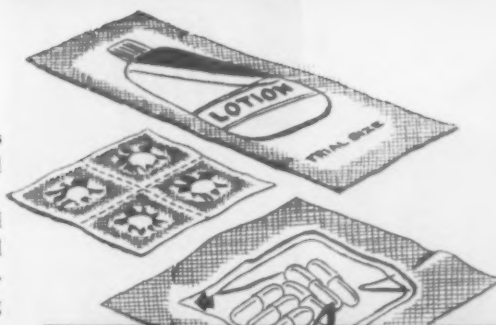
New machines were developed at Ivers-Lee for cellophane strip packaging, using two strips of material to form packets like a sandwich with the product between and heat sealed on all four sides. Sealing and crimping techniques were refined to provide greater product protection and an endless variety of decorative packaging effects.

As the business grew, varying physical and chemical properties of different products led to the search for new film combinations and coatings, incorporating foil and new synthetic materials that could be tailored to specific requirements. In addition to tablets, improved machines were designed to form and fill single-use packages of powders, creams and liquids. And more advanced machines and package designs are continually being created. Since 1933, speeds of strip-packaging machines have been increased tenfold, some of them now capable of packaging 1,000 or more tablets in individual pockets per minute.

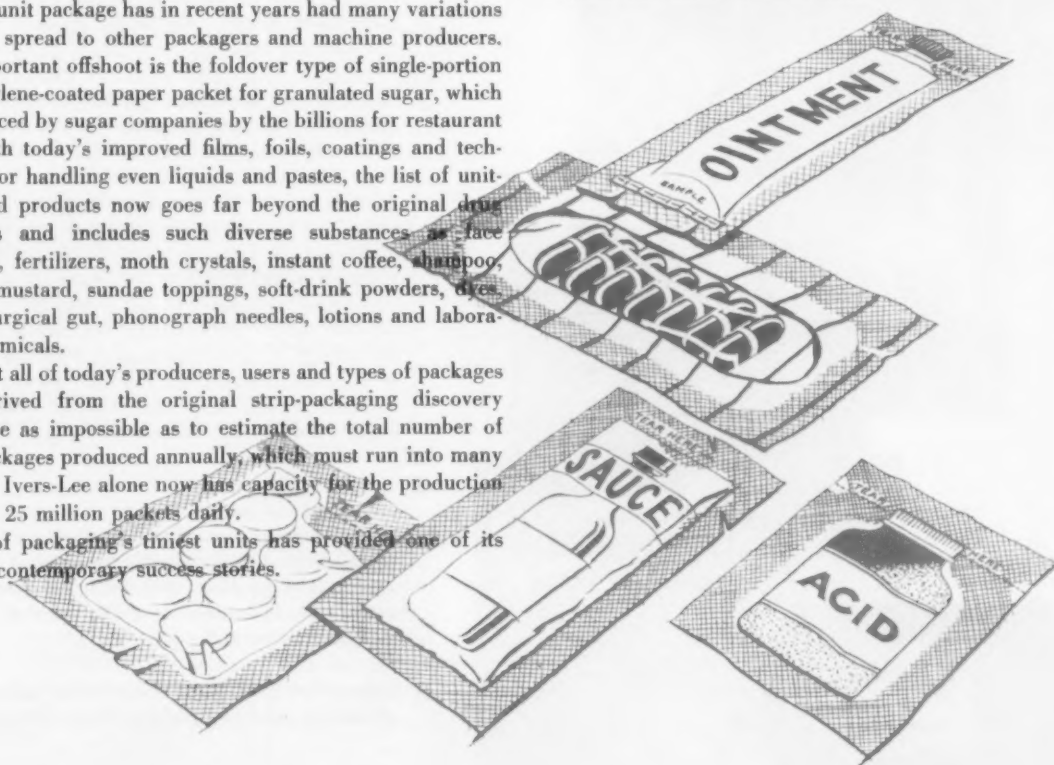
While Ivers-Lee was unquestionably the great pioneer, the strip or unit package has in recent years had many variations and has spread to other packagers and machine producers. One important offshoot is the foldover type of single-portion polyethylene-coated paper packet for granulated sugar, which is produced by sugar companies by the billions for restaurant use. With today's improved films, foils, coatings and techniques for handling even liquids and pastes, the list of unit-packaged products now goes far beyond the original drug products and includes such diverse substances as face powders, fertilizers, moth crystals, instant coffee, shampoo, catsup, mustard, sundae toppings, soft-drink powders, dyes, yeast, surgical gut, phonograph needles, lotions and laboratory chemicals.

To list all of today's producers, users and types of packages that derived from the original strip-packaging discovery would be as impossible as to estimate the total number of such packages produced annually, which must run into many billions. Ivers-Lee alone now has capacity for the production of up to 25 million packets daily.

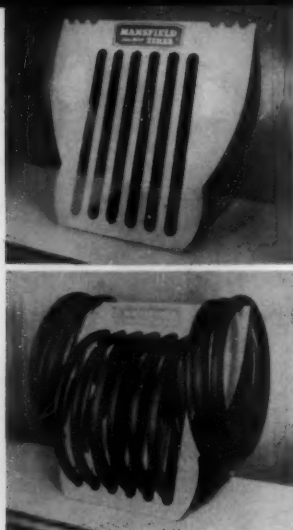
One of packaging's tiniest units has provided one of its biggest contemporary success stories.



**Lloyd I. Volckening** (center) and two old-time associates with original strip-packaging machine that started it all in 1919.



1

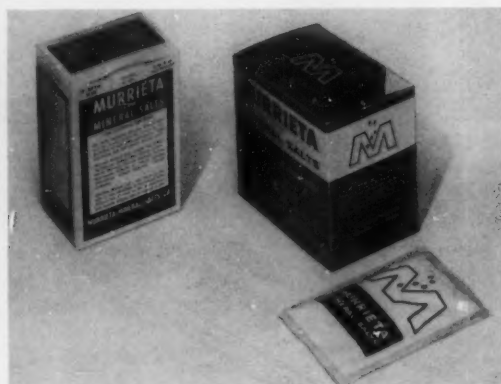


**1** Design of this unusual merchandiser for bicycle tires made by Mansfield Tire & Rubber Co. has been adapted from the standard-style bicycle rack. Six tires fit into slots and three hang from individual grooves on each side of the corrugated display. All are visible and reachable, yet occupy very little space. The broad base, sloping front and back form a stable triangular shape for floor, shelf or counter use. Display, Stone Container Corp., Chicago.

**2** A "dial-your-drink" container made of transparent acetate is the novelty pitch for Paul Masson Vineyards' DeLuxe Brandy in a 4/5-qt. bottle. Upper

## PACKAGING PAGEANT

2



section of the printed, two-piece, cylindrical telescoping container is designed with three unprinted transparent circles. When this section is rotated, the circles expose seven different recipes for mixed drinks that may be made with the brandy and the type of glass to use for each, printed on the base section. Both sections of the container have foil-laminated paperboard ends. Design, Gould & Associates, Los Angeles. Container, A. & E. Plastik Pak Co., Los Angeles.

3



**3** The first package change in 20 years for Murrieta Brand Mineral Salts was made not only to keep up with modern merchandising trends, but also to develop new markets for the product as an aid in relaxing nervous tensions. Consumer convenience is offered by packaging the product in pre-measured unit-of-use packets made of 22-lb. polyethylene extruded on 300 MSAT 80 cellophane. A perforated oval at one side panel of the redesigned carton is punched out by the consumer for easy removal of the packets. Contract packaging, Packaging Corp. of America, Los Angeles. Film for packets, Dow's Dobeckmun Co., Cleveland. Cartons, Fibreboard Paper Products, San Francisco.

4



**4** Now it's contemporary fine art that seems to be invading the commercial field of package designing. Says the famed artist, "I wanted the package for new Coup de Feu perfume by Marquay of Paris to suggest burning nights and the irradiation of fire, symbolizing the explosion of the spirit of youth." Design, Salvador Dali.

**5** Among the first frozen foods to be packaged in aluminum cans is Oregon's Finest Whole Fresh



Frozen Strawberries. Reason for the change, says Blue Lake Packers, is a 6-7% saving in weight over the conventional metal can, reducing freight costs, and adaptability of aluminum to high-quality lithography, which can go completely around the can since there are no cemented side seams. Can, Continental Can, New York.

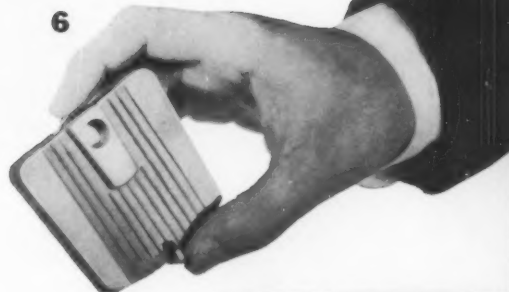
- 6** Reducing tablets in a plastic container that is a miniature replica of a check-your-weight bathroom scale is a "natural" for National Drug's weight-reducing Tepanil. The polystyrene container, designed in red with black overprinting to simulate a scale's mat, holds six Tepanil tablets which rest on a revolving disk. By turning a dial, tablets fall out individually. No adhesive or cement is used in making the container; all parts are self locking. Container, Precision Plastics, Philadelphia.

- 7** A transparent, rectangular, extruded plastic container which protects Merck Sharp & Dohme's Tetravax vaccine in glass bottles, has a cut-out "window" in the side that permits date stamping directly on the bottle. The close-fitting, semi-rigid container, made of cellulose acetate propionate, insures that the bottle will remain in correct position for dating and eliminates the need for outer-package labeling. "Tulox" container, Extruded Plastics, Norwalk, Conn., using Eastman Chemical Products' plastic material.

- 8** A new consumer convenience for bulky, heavy products in multiwall bags is this side carry handle adopted by Sunshine Plant Food Co. for its 25- and 50-lb. sizes of sheep and steer manure. This patented bag, designed in orange, green and white, gives improved point-of-purchase display and affords better handling and pouring by the consumer. Bag, Hudson Pulp & Paper, New York.

- 9** Men's tie and hose sets are packaged as colorfully lithographed studio greeting cards by Fashion Neckwear Co. Face of the "card" carries a Christmas design, while the merchandise is displayed on the inside fold in pilferproof transparent blisters. Mailing envelopes are supplied with the cards. The package may be rack displayed when folded. For stand-up display, the card package is partly unfolded. Package, Gardner Div., Diamond National Corp., Middletown, Ohio.

- 10** Tying in with the idea of "The Hunter's Lucky Shot," 1/16-oz. bottles for French Armagnac Ducastaing are appropriately designed to resemble ammunition cartridges. Sets of six in assorted colors with copper-colored caps are sold in partitioned telescoping boxes. Upside-down foil labels are placed on the bottles for correct reading position in the boxes. All packaging is done in France.



**8**



**9**



**10**



*At a penny a cap*

...the  
 packer's best  
 bargain

*Just some steel, compound, and coating?  
 Not when the cap comes from White Cap!  
 Here, only a penny-a-cap buys some of the  
 basic success-essentials.*

It's said, in glass packaging circles, that "success comes a lot easier when you have White Cap working with you".

A great many food packers agree with this concise comment — because they've found that the penny average they pay for a Vapor-Vacuum Cap is really an amazing bargain. For this very small portion of their costs, they buy benefits so substantial as to exert major influence on their over-all profit situation. Among the P & L benefits that a penny-a-cap buys at White Cap are these:

... in research

1—The full benefits of the closure industry's top research program—the research which has underlain most of the important advances in glass packaging and is most likely to produce the advances of the future. Particularly important, here, is the fact that White Cap research looks at each food product individually, and thus becomes the primary influence in development and application of sealing compounds, coatings, and closure design to meet each product's needs.

... in product security

2—An alliance which leads to maximum product security. The tie-up with White Cap gives the packer his maximum assurance of packaging that always opens up fresh.



... in production efficiency

3—Major contributions to production line efficiency and economy. Not only at the sealing stage, but at many key points on the line, the White Cap-packer relationship is a constant influence for good—whether the problem is a major engineering matter, preventive maintenance, or field service.

... in package convenience

4—Assurance of consumer acceptance. In the packer's drive for greater package convenience and better package appearance, he finds his best ally here. If there's a way to make a glass package easier to use or better to look at, White Cap is most likely to find it.

*Well-nigh an imperative*

These are some of the benefits a penny-a-cap buys at White Cap.

Is it any wonder, then, that most glass packers agree "working with White Cap" is one of the first essentials in glass packaging?

**"VAPOR-VACUUM" Seal and Re-Seal**  
**WHITE CAP COMPANY**

SUBSIDIARY OF CONTINENTAL © CAN COMPANY

# TOYS **can live forever**

*The story of a half-century-old manufacturer of ABC blocks and games reveals how the right packaging, timed right, can win increasing sales for good old staples year after year*

**T**he average market life of a toy has been estimated at about three years. Therefore, the mortality rate among toy companies is high and few toy manufacturers can boast of being in business for nearly a half century. One such company is Halsam Products Co., which has been making ABC blocks, checkers, dominoes and chessmen since 1917.

One of the reasons for the continued success of this multi-million-dollar business, perhaps, is this company's periodic styling and review of packaging presentations to meet changing merchandising conditions. There is a lesson in this, it is believed, for

every packager who is not taking a frequent, critical look at his packaging. Halsam has always changed its pictorial labels to keep up with the times. But this year—in view of today's fast-changing selling techniques—the company has done one of the most complete overhauls in its history.

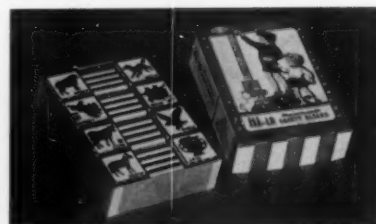
Changes have not been confined to labels. Nearly every package in the line has been redesigned structurally as well as graphically. An analysis of these innovations—given in the accompanying photo captions—reveals some significant strategies worth study by packagers in completely unrelated lines.



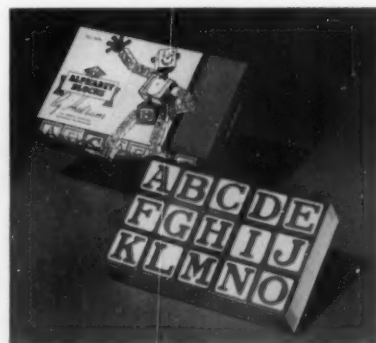
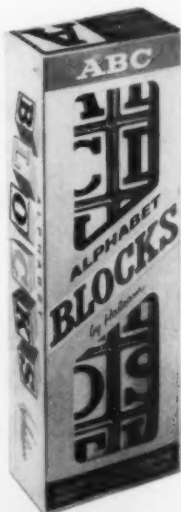
**It takes same space to display single-row carton as former three-row package, yet note difference in display impact, Halsam points out. Carton by C. W. Zumbiel Co.**

**NEW**

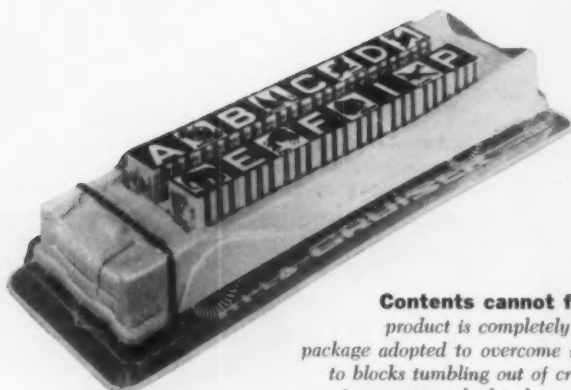
**OLD**



**Carton you can see through** eliminates opening for customer examination and nuisance of spilling. Shape is designed to win better display. Carton by Field Paper Box Co., using Celanese acetate for windows; surface design by Diamond Art Studios.



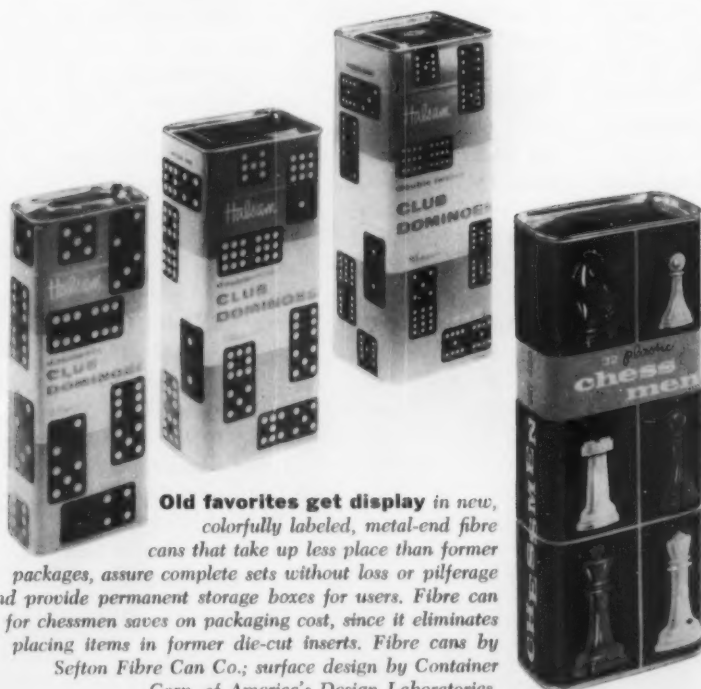




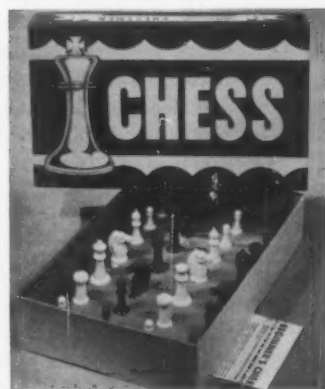
**Contents cannot fall out** and the product is completely visible in blister package adopted to overcome retailer objection to blocks tumbling out of cruiser truck when former carton had to be opened for shopper demonstration. Blister by Poster Products, Inc.



**Carton that's a plaything** is aimed to win new counter positions for Walt Disney Character Blocks; appeals to grown-ups as well as toddlers who can use sturdy box to load, unload and push around. Carton by Field Paper Box Co.



**Old favorites get display** in new, colorfully labeled, metal-end fibre cans that take up less place than former packages, assure complete sets without loss or pilferage and provide permanent storage boxes for users. Fibre can for chessmen saves on packaging cost, since it eliminates placing items in former die-cut inserts. Fibre cans by Sefton Fibre Can Co.; surface design by Container Corp. of America's Design Laboratories.





**Bagging operation** uses pre-formed 1½-mil polyethylene bags and semi-automatic units that open each bag with a puff of air. Pivoted arms enter bag as the heavy newspaper is pushed into place. Package is then dropped on conveyor where a fixed guide bar aligns for sealing.

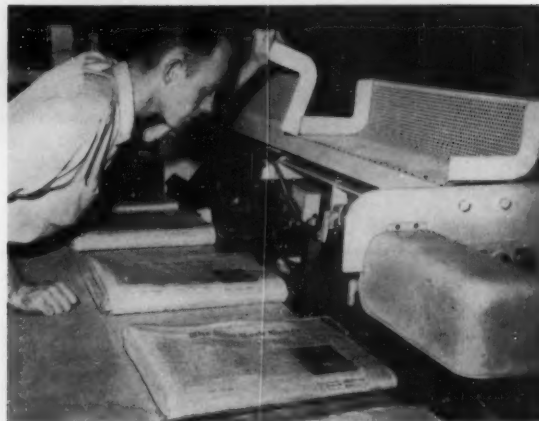
*The news that's fit to print  
now fits a heat-sealed bag  
as New York's leading newspaper,  
in what may be a significant move,  
machine packages mailed copies  
of its big Sunday edition*

**T**he last great American industry that had little use for packaging is breaking down. Soon, all of the nearly 80,000 copies of the Sunday edition of *The New York Times* that go out by mail will be packaged in heat-sealed, thermoplastically labeled bags of 1½-mil polyethylene plastic film—produced on the first automatic packaging machine ever to invade a newspaper mailing room.

The idea came from the packaging of luncheon meat in a supermarket, with modifications from the textile industry. And the effect on the newspaper industry—which looks to the *Times* for leadership—is incalculable. A bulletin from the American Newspaper Publishers Assn. is telling its membership about this revolutionary switch from traditional hand wrapping with paper. Only a few newspapers have ever tried a transparent film and none before has so mechanized this essential combination of wrapping and labeling for the mailman. The *Times* is looking ahead to the complete automation of its mailing-room activities.

Initially used for 5,000 copies of the August 23 Sunday edition that were mailed to California sub-

**Band sealer** nips the top of the bag between heating elements, applying a hairline seal and trimming off the excess film.



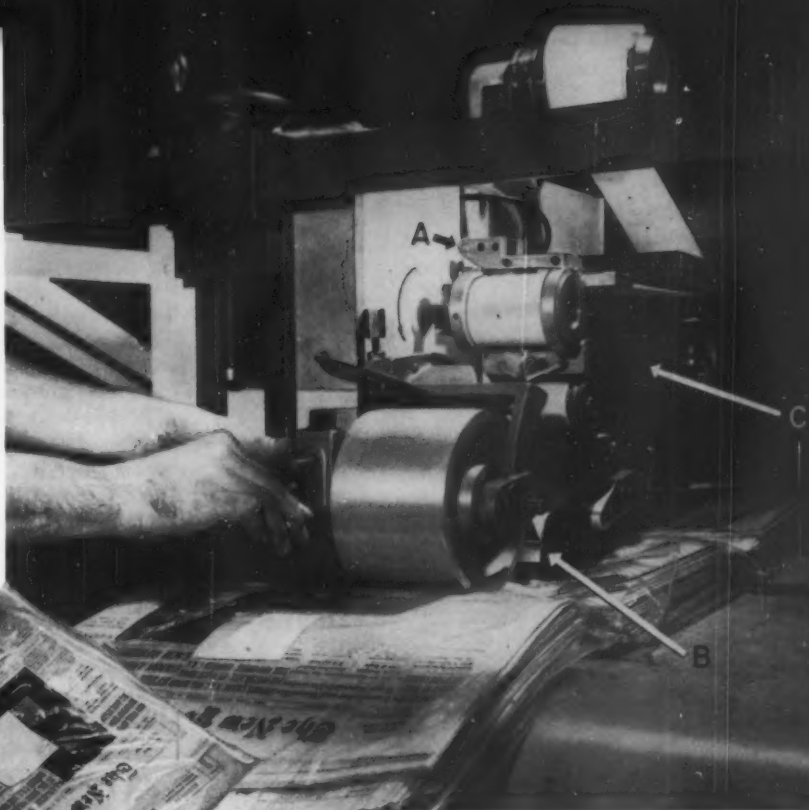
## The Times

scribers, packaging of this paper in plastic is being extended at the rate of 5,000 copies every two weeks until it eventually includes all Sunday subscriptions mailed in this country and abroad.

Previously, the *Times*, like most newspapers, was rolled in a kraft paper wrapper with a dab of paste and a pasted label. The fragile nature of this mailing was even more critical, company officials explain, by the increasing weight of the Sunday edition, which has risen more than a pound during the past year to a present average of 5 lbs., with many Sunday issues far above that.

The proposal to use a heat-sealed polyethylene bag and pre-addressed thermoplastic label for this far-traveling newspaper grew from the observation by a *Times* circulation man of supermarket in-store packaging and a search at the AMA National Packaging Exposition for equipment to do a similar job on newspapers. There, *Times* officials observed a textile bagging operation that ended their quest. The technique was perfected by combining standard semi-automatic baggers and a new continuous heat sealer and automatic labeling attachment that is ex-

**Special labeler** handles rolls of pre-addressed labels, coated on the reverse side with a thermoplastic adhesive. An ultrasonic registration device (A) detects holes in the web and transmits an impulse to the cut-off knife (B). The adhesive is activated by heating chamber (C). Roller completes the application.



## in polyethylene



pected to save thousands of dollars per year on this packaging operation.

The pre-formed 14-by-19½-in. bag permits copies to be mailed flat—which has been hailed by mailmen as a boon to handling and stacking—and gives adequate protection against soiling, tearing and the vagaries of weather. So durable is the high-impact plastic bag that the newspaper can be hurled about in mail sorting and delivery operations with no fear of its breaking. While transparency is not a primary factor for this package, newspaper officials agree that it does improve the appearance of the paper and that it should have an influence on customer re-orders of mail subscriptions.

Obviously, the polyethylene bag is more expensive than the simple paper wrap it replaces. However, there are offsetting [*Continued on page 212*]

**SUPPLIES AND SERVICES:** Polyethylene bags by Equitable Paper Bag, Long Island City 1, N. Y. "Visqueen" film by Visking Co., Div. of Union Carbide, Terre Haute, Ind. "Speedy" bag packagers by Errich International, 35 W. 36 St., New York 16. Heat sealer and labeler by Carbert Mfg., Cambridge, Mass. Coated label stock by Nashua Corp., Nashua, N.H.



## Gift appeal at low cost

Despite a gleaming, beribboned look of luxury, the foil-laminated gift carton in which Stitzel-Weller Distillery is marketing its holiday decanter of Old Fitzgerald bourbon actually represents big savings in packaging costs.

The only gift-wrapping operation performed on the packaging line is application of a prefabricated foil bow with pressure-sensitive adhesive base. All other gift-wrap elements are applied to the self-erecting carton during manufacture. These include: a gold, silver and white diamond-pattern design; an embossed vertical green stripe that exactly matches the foil bow, and a removable cellophane band printed with brand and product copy.

The company says that its new gift carton reduces handling costs 50% by eliminating overwrapping operations formerly done at the plant. In addition, the embossed-stripe-and-bow combination is said to cut 45% from the labor cost and 10% from the material cost required for a full-length ribbon. *Carton and design by Standard Packaging's Bradley-Gilbert Folding Box Div., Louisville 1. Printed cellophane band by Milprint, Milwaukee 1. Foil bow by Shear-Prinz Associates, 216 S. Wabash Ave., Chicago 4.*

# COST

## Two ways to sell, for 14% less in packaging costs



Merchandising versatility—at a 14% saving in packaging costs—has been achieved, according to J. Wiss & Sons, Newark, via the adoption of a combination carton-and-sleeve container for its Metal Master metal-cutting shears. The new "two-in-one" package is adaptable to clerk service or to self-selection selling. It replaces a window carton with die-cut interior platform to hold the product in place.

In Wiss' new packaging set-up, a pair of shears is first slipped into a die-cut, printed, hang-up sleeve which exposes the handle and blades. The product then is inserted into a shallow folding carton. To satisfy product identity, a full-size illustration of the shears is printed on the windowless carton. The retailer thus can display the carton on his shelves, or he can remove the sleeved shears and hang them on a pegboard for self-selection merchandising.

Packaging-material costs have been shaved by elimination of the film window and platform. Because no platform is needed, the new carton is smaller and narrower than the former package, for savings in shipping costs. Another economy factor is that the sleeve and carton, both made of white-lined kraft, are produced in a combination run.



## Molded-pulp shipper inserts offer economical protection

Custom-made molded-pulp carton inserts perform a triple service for Terado Co., St. Paul, a manufacturer of electric power converters. They speed up packaging, provide greater protection for the delicate instruments and cut packaging costs by a healthy 25%, says Terado.

The company formerly used hand-folded corrugated sheets to protect its products from damage in shipment. These inserts (three or five, depending on the model) were positioned around the instrument after it had been placed into the shipping carton. It was a tedious, time-consuming operation. Now, however, protective packaging is a swift and simple procedure. One molded-pulp "cap" is placed at either end of the converter and the entire unit is slipped into the shipper. The shock-absorbent end caps float the instrument to cushion it against handling damage, at the same time keeping it securely in place to prevent rattling.

As a convenience to users, the molded-pulp end caps allow the converter to be removed easily from the shipper for inspection and then replaced, without destroying the carton's protective qualities. "Tekmold" molded-pulp interior packaging by Bemis Bro. Bag Co., St. Louis 2.



## CUTTERS

### Rigid plastic tray guards a tubed product at 40% saving

Better protection for a tube-packaged product . . . a 30% increase in sales . . . and a 40% reduction in packaging costs. This is the record reportedly achieved by an all-plastic display container developed by R&S Chemical Co. of Portland, Ore., for Cushion denture liner.

The unprinted package is a 10-mil white vinyl tray with a transparent, vacuum-drawn, 5-mil butyrate cover. Visible through the strip-off cover is the printed collapsible metal tube which contains the viscous denture product. The sturdy covered tray holds the tube firmly in place.

R&S reports that its new plastic container is the latest step in a continuing program of package improvement. Former containers for tubed denture liner included a folding carton, a clear-plastic box with slide cover and a skin package. None of these was entirely satisfactory in minimizing costs or stimulating sales.

The new plastic packages are automatically formed, filled and sealed in the R&S plant, at 576 per hour. In addition to low initial cost, says the packager, the lightweight trays have cut shipping costs 5%. Covered trays formed from Union Carbide Plastic vinyl and Eastman Kodak butyrate.



**Three steps  
from multipackager  
to final caser**



*Start of Falstaff's new multipackaging system is machine (center right) in which cans slide into carriers and pass through compression section (foreground) on their way to further packaging.*

## **New flexibility in can loading**

*At Falstaff's versatile new beer-packaging center in Galveston, cans are either cased or multipacked, and multipacks are either cased or tray packed on a 640-can-per-minute line that cuts costs 20%*

**A**utomatic, high-speed handling of cans, which recently has reached new heights of efficiency in the brewery field for incoming containers\*, is now being applied at the other end of the production line with equally significant results. A striking example is a combination of streamlined casing equipment for both multipackages and individual cans at Falstaff Brewing Corp.'s new packaging center in Galveston.

At this ultra-modern center, maximum packaging flexibility is attained with a compact arrangement of four machines that, running at 640 cans per minute, will case or tray pack either six-packs or loose cans (both in the 12-oz. size) at an over-all cost saving of 20% compared with previous semi-automatic packaging techniques. Eventual goal of the line is 800 cans per minute—which will boost savings to 30%, according to Falstaff engineers.

In this beer packaging step-up, three new machines are noteworthy:

1. A 24-can end-loading caser.
2. A tray-packaging machine that loads four of

the multipackages into each half case or tray pack.

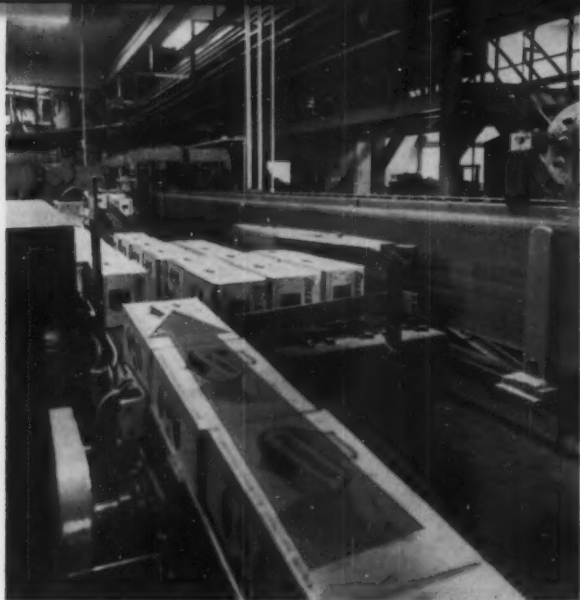
3. An automatic top loader for eight six-packs in standard RSC cases.

The operation of this equipment depends on the use of knock-down cases, which in turn requires bulk handling of incoming cans. Falstaff receives its cans on bulk pallets; the cans are unscrambled automatically and run directly to a high-speed, 60-spout filler. An ingenious system of conveyors routes sealed cans from filler through pasteurizer to either the multipack machine or the end-loading caser. Six-packs from the multipacker can be similarly directed to either the tray packer or the top-loading caser.

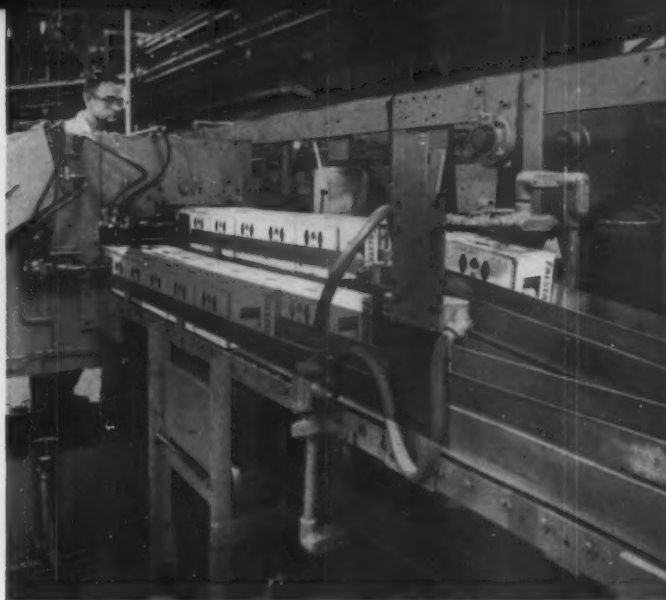
This system enables the company to switch instantly to any style of shipping package with no equipment change-over and a minimum of operating personnel requirements.

Individual savings on the tray and casing operations for six-packs are even more dramatic than the over-all figure. Automatic end loading of cans has cut requirements for hand labor from four operators to one, while the tray loader for six packs has re-

\* See "2,000 Cans Per Minute!" MODERN PACKAGING, Sept., 1959, p. 118.



**Reciprocating indexer** aligns multipackages on four belts leading to case loader (far background). Cartons are cased on their sides.



**Top-loading caser** has flat and ramped belts to position multipackages on two levels. Cases are automatically opened, moved into position, then loaded by pistons.

duced personnel needs from two to one—a cut of 66% in labor requirement for these two packages.

Falstaff figures additional savings through the use of end-loading cases for loose cans and trays for multipacks, which utilize 22.7% and 26% less corrugated board, respectively, than conventional shippers. Warehouse space formerly needed to hold empty cans in re-use shippers is also reduced.

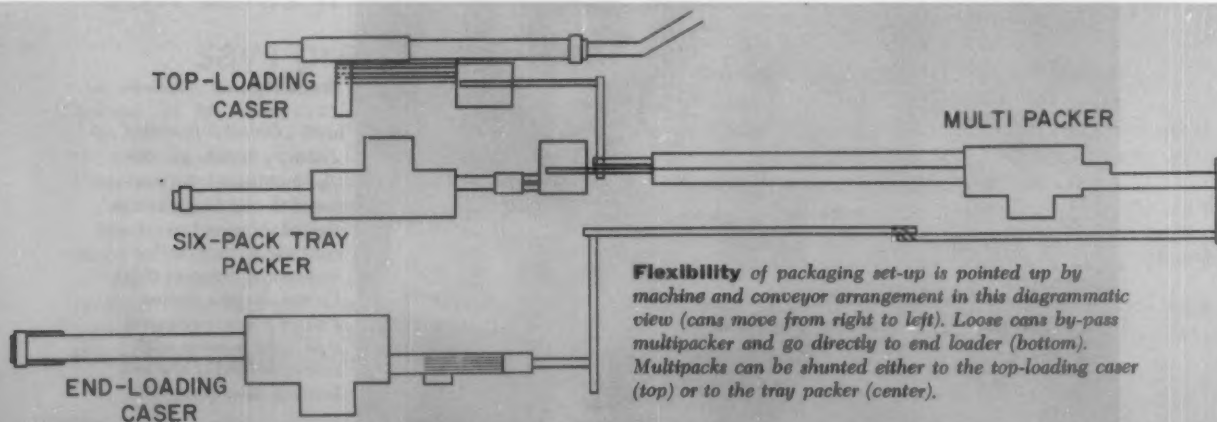
Compact arrangement of the new machines is facilitated by their similarity in mechanical action. In each instance, product packages are grouped, then pushed into shippers that move on parallel conveyors. This continuous, linear motion enables all three casing machines to be contained in a space only 40 ft. wide.

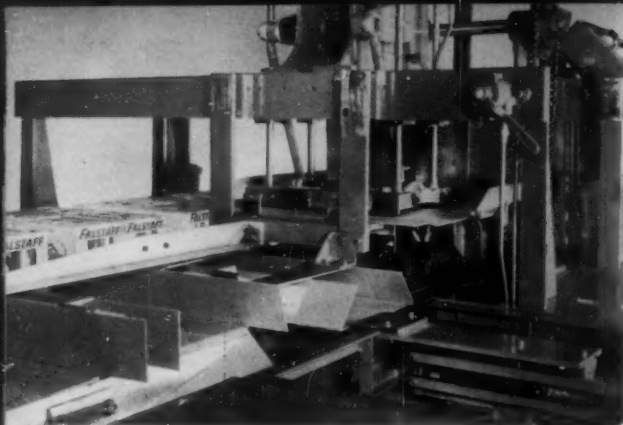
Compact compression sections for the glued cases and a tight arrangement of feed belts keep the extreme length of the casing line to about 68 feet. The

multipackager with its compression section and the associated by-pass belt add another 59½ ft. to this packaging set-up.

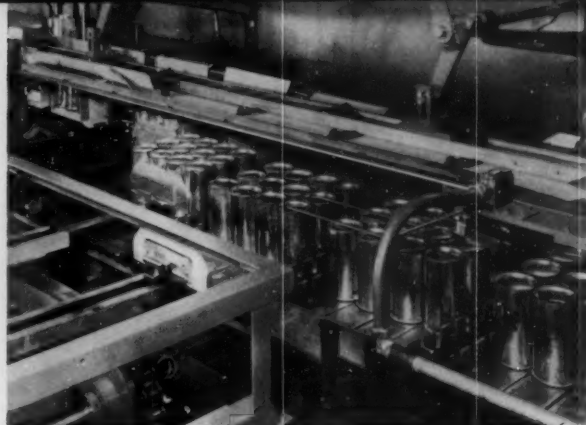
Lithographed 12-oz. cans of beer scheduled for loose casing proceed from the sealer and pasteurizer to the end-loading caser, which has a potential speed of 50 cases per minute (1,200 cans). Here, cans are divided into six lanes as they enter the machine. Individual pusher arms, each mounted in its own slide track, group the containers into 12-can loads and cam-actuated arms slide the cans across a deadplate into open cases that are moving in the same direction. Two loads fill each case.

In setting up the cases, vacuum cups are used only to spring the shippers free of retaining lugs on the bottom of the case-feed hopper. Direct-acting arms then push the cases into the opening section, where knives enter the case from each side on the score





**Tray packer** sets up corrugated tray by plunger action. Pre-grouped multipackages are pushed in place by cam, then end flaps on trays are glued to complete packaging operation. Each tray holds four six-packs.



**Loose cans**, which by-pass the multipackaging machine, are routed to this new end-loading caser. Containers, grouped in conveyor buckets, are smoothly shoved into automatically set up cases by cams. Each case holds 24 cans. Unlithographed cans shown here were used in pre-production test.

line as the case is squared by arms. Lugs on the case conveyor securely hold the leading and trailing edges of the case as it is being moved and filled.

A slightly different approach is used in the multipack tray packer, which employs corrugated blanks formed and glued around each load of four six-packs. Here, too, the potential rate is 1,200 cans per minute (200 six-packs). Multipackages are divided into two lines by a reciprocating ram and loaded in a bucket conveyor by crank-type elevators, which rise on either side of two link-feed belts and raise the multipackages to a point where they can be swept into individual buckets by chain-driven arms.

In groups of four, the multipackages are conveyed to cam arms that push each load onto a tray blank traveling on a parallel conveyor. The pre-scored tray blanks are bottom fed from a hopper and the sides are broken to shape by a plunger that drives the blank down into conveyor transport lugs. After the loading operation, the end flaps on the tray are closed by both fixed and rotating plows.

The top-loading caser for eight six-packs operates

in a similar manner, except that the multipackages are stacked two high by a ramp belt that elevates one row of multipackages and then merges the two levels. Since the shippers are loaded on their sides, the multipacks are also run on their sides to keep the cans in an upright position in the loaded case. Case loading is accomplished by a double stroke of the single loading ram in an intermittent operation. The shippers are broken open in much the same way as are the end-loaded cases.

Development of this new series of machines now enables packagers to achieve the same speed and cost savings in case packaging that recently were made available in incoming-container handling. These advances and such combinations of machines as Falstaff employs for maximum flexibility in choice of casing methods will spark further interest in this equipment by packagers of high-volume products.

**SUPPLIES AND SERVICES:** CMC six-pack cartoner, CMP end-loading caser, CMTF tray packer and ACP caser for multipackages by R. A. Jones & Co., Cincinnati 1. Package design by Lippincott & Margulies, New York.



**Redesigned** containers for 12-oz. cans. All are handled with automatic precision on Falstaff's flexible line. Six-can multipacks (bottom) are cased in tray (right) or top-loaded shippers (top). Loose cans are in cost-cutting end-loaded shippers (left). Carton designs feature Falstaff's new white and gold color scheme with redesigned shield and new foaming beer glass.





**"15% sales increase due largely to Knox-designed jar,"  
says president of leading gourmet foods firm**

The handsome fluted glass packages shown above were designed by Knox Glass, Inc. in 1957 for a leading Eastern manufacturer of gourmet foods.\*

According to the firm's president:

"Sales increased nearly 15% after changing to the fluted jar which Knox Glass designed exclusively for us.

"The eye-catching salesmanship of the jar, which has no label other than the closure, permits the purchaser a clear, clean view of our appetizing products, such as Potato Salad, Cole Slaw, Macaroni Salad and Vegetable

Chow Chow. Knox's strong design and the excellent quality of the glass we buy from Knox, combine to make this a wonderful package.

"We've been a Knox customer for nearly seven years and buy almost exclusively from them. Special quality products such as ours demand high quality glass and exceptional service. This we get from Knox."

Find out more about how Knox can meet your glass container needs — contact Knox Glass, Inc., Knox, Pennsylvania.

\*Name available on request.

*the new/***KNOX GLASS**



**Open view** of Penetray's new folding carton for Holiday Showoff floodlight and fixture shows how a simple innovation adds dramatic impact to conventional package. Die-cut holes in top panel and in rigid corrugated liner permit lamp to be screwed in socket. Self-locking carton holds all necessary components.

## Spotlight on the feature

*To focus shopper attention on colors of decorative home floodlights, Penetray uses a novel carton in which the lamp rides outside in full view and accessories are packaged inside*

If a product's sales success depends largely on color, create packaging that sells the color. Such is the philosophy of Penetray Corp., Toledo, which bases its prediction of a 25% sales increase for multicolored Holiday Showoff decorative home floodlights on an unusual folding carton in which the lamp rides outside in full view while the socket, electrical cord and mounting accessories are stored securely inside. Formerly, each complete unit was packed in a conventional folding carton.

Packaging of home-use floodlights is a swift and simple manual operation, says Penetray. The self-

locking carton has a die-cut circular opening in its top panel as well as a concentric opening in the top panel of a three-sided corrugated-board liner which provides rigidity to the container. The neck of the lamp is inserted into the dual opening and screwed into the socket, which has previously been loaded into the carton along with its cord and accessories.

The result is an unusual self-selection package for this multipart product. Consumer attention is concentrated on the key product feature—color. Directional copy and use illustrations on the paper-board carton are printed in green, red and black on a white background.

Evidence of the effectiveness of this new carton is the fact that it won a Silver Award in this year's 23rd annual Variety Packaging Awards Competition, sponsored by *Variety Store Merchandiser*.

Penetray also has adopted a new corrugated-board shelf, counter or island merchandiser holding six of the packaged floodlight assemblies. One of each floodlight color offered—green, red, yellow, pink, straw, blue-white and amber—is shipped to retailers in the printed, tray-type display, along with a flat, fold-over corrugated display header. The complete unit slips into a corrugated shipping carton. Additional protection is given the exposed lamps by a slip-over partitioning device constructed of interlocking die-cut corrugated strips.

Set-up of the self-selection merchandiser takes just a few minutes. All the dealer has to do is fold back the header and insert it into slots die cut in back of the merchandising tray. The header contains hints for using the floodlights, as well as directions and use illustrations.

**SUPPLIES AND SERVICES:** Corrugated tray designed and supplied by Hankins Container, 14801 Emery Ave., Cleveland 35. Folding cartons by S. H. Davis Paper Box, 1028 W. Central Ave., Toledo 6. Display header by McManus-Troup, Toledo.

**Self-selection appeal** is afforded by corrugated display for counter, shelf or island use. It holds six individually packaged floodlights. Promotional header is shipped flat with products, slips into die-cut slots in back of the merchandiser.



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16-foot acoustical ceilings. Completely fire-resistant. Enclosed, 7-car railroad siding.

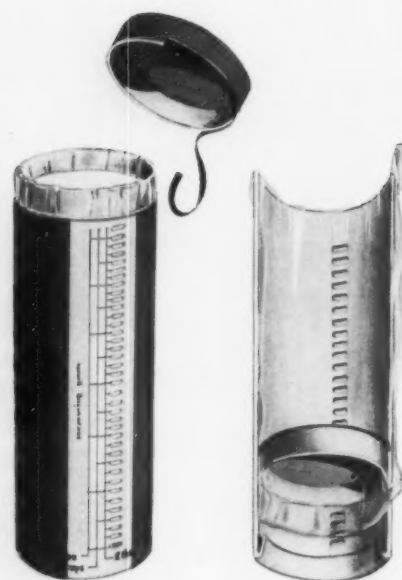
"Prestige Packages by Burt" originate now in this ultra-modern, \$5,000,000 plant which gives tangible expression to F. N. Burt's confidence in the growing future of fine packaging...functional packaging...prestige packaging. "Packaged" efficiently in this one-story, windowless, air-conditioned plant, Burt will provide its continually lengthening list of clients with packaging of even higher quality and attractiveness than before. For example, minute humidity control assures perfect uniformity in material processing and perfect register in printing.

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# Technical & Engineering

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## Film strengths in heat processing

*A simple method for estimating burst strength of heated food bags is outlined and data are given on three plastic films showing how their behavior differs under processing conditions.*

*By E. G. Davis, M. Karel and B. E. Proctor\**

**T**he development of plastic films with resistance to temperatures up to 250 deg. F. has stimulated interest in the possibility of using these films for the packaging of heat-processed foods (1, 3)<sup>†</sup>. During the last two years, the Department of Food Technology at the Massachusetts Institute of Technology has been engaged in a program of studies in an attempt to elucidate some of the problems associated with the heat processing of foods in flexible films, a full account of which is in preparation.

In the course of these investigations it was neces-

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*This is one of the last of many fine contributions to the technical literature of packaging from Dr. Bernard E. Proctor, Head of the Department of Food Technology at Massachusetts Institute of Technology and a frequent contributor to the Technical Section of MODERN PACKAGING. Dr. Proctor died on Sept. 24, shortly after this article was completed.*

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sary to develop a suitable method for the estimation of the burst strength of packages made from films likely to be suitable for this type of pack. This discussion outlines some of the observations made on the burst strength of packages made from the newer types of heat-resistant polyethylene, polypropylene and polyester films.

Two methods for the estimation of the burst strength of film packages have been described (2,

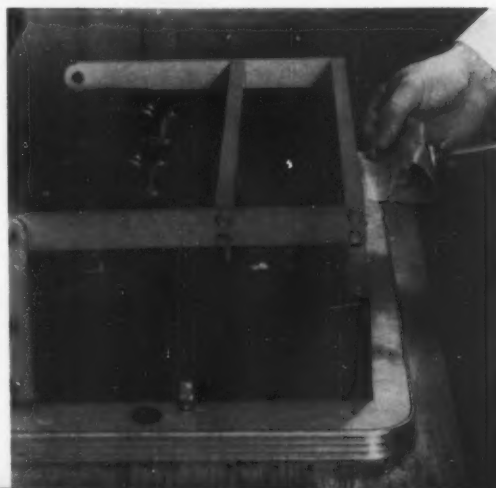
4), but these methods are not suitable for the estimation of completed-package strengths at processing temperatures. The present method is simple and may be used to estimate the optimum sealing conditions and the strength of completed packages over a wide temperature range under conditions similar to those encountered during heat processing of foods.

### Experimental

**Materials used.** In order to eliminate any possible variations between different batches of films, only the results which were obtained on the following samples are reported here.

1. High-density polyethylene, which was sup-

**Figure 1.** A test bag being sealed on a Vertrod impulse sealer.



\*This is Contribution No. 367 from the Department of Food Technology, Massachusetts Institute of Technology, Cambridge, Mass.  
<sup>†</sup>Numbers in parentheses identify References appended.

**Table 1: Summary of results on burst strength of bags under specified conditions**

Material	Gauge	Heat-sealer setting	75° F.		Burst strength (cm. Hg.)				233° F.	
			Range	Mean	75° F. <sup>a</sup> Range	Mean	212° F. Range	Mean	Range	Mean
High-density polyethylene, quenched film	1 mil	5	4.0-5.0	4.5						
		6	17-19	18	13-17	15	4.0-5.5	4.8		
		8	17-18	17						
		10	17-18	17	21-22	21	4.0-5.5	4.6		
Polyethylene, blown tubing	1 mil	5	20-21	20						
		6	25-27	26	19-31	27				
		8	26-33	28						
		10	26-31	28	26-35	31	7.0-8.5	7.9 <sup>b</sup>		
	2 mils	10	39-47	44	46-51	49 <sup>d</sup>	11-14	13	9.5-11	9.8
Polypropylene	3 mils	10	55-62	60	60-68	65	17-21	19	13-15	14
	1 mil	10	27-32	29	35-37	36	9.5-12	11		
Polyester	1 mil	4 x 10 <sup>c</sup>	5-25	17	8-18	13				
		6 x 10 <sup>c</sup>	13-25	18	4-19	9	18-23	21	20-24	22
		8 x 10 <sup>c</sup>	11-28	22	4-16	9				

<sup>a</sup>Estimated after bags were processed 30 min. at 250° F.<sup>b</sup>All bags failed at points in film isolated from heat seals.<sup>c</sup>Polyester film was sealed by repeated sealer operations at the maximum setting of 10.<sup>d</sup>All bags burst at end seal of bag made after films were heat processed.

plied both as quenched film and as blown tubing.

2. Polypropylene film.

3. Polyethylene terephthalate (polyester) film.

**Sample preparation.** All measurements were made on 4-by-3-in. bags made up from 8-by-3 in. samples of film by folding and sealing the three edges. The results recorded are the mean values of six individual estimations. The films were sealed on a Vertrod, Model 13A, thermal-impulse sealer (Vertrod Corp., New York) as shown in Figure 1. The impulse time on this heat-sealing equipment may be varied from  $\frac{1}{6}$  of a second at a dial setting of zero to 1 second at a dial setting of 10.

**Apparatus.** The apparatus used for the estimation

of burst strength is shown in Figure 2. It consists of a brass tube to which the bag is attached, a mercury manometer, a pressure control valve and a source of compressed air, connected with pressure tubing. In some of the tests, a calibrated pressure gauge was used in place of the mercury manometer. The brass tube is threaded at one end and fitted with duplicate wing nuts, brass washers and rubber washers. The bags may be securely attached to the tube by heat sealing two edges of the bag, inserting the tube through a small hole cut in the folded end, clamping with the wing nuts and washers, and completing the final heat seal.

**Testing procedure.** The bag strengths were esti-

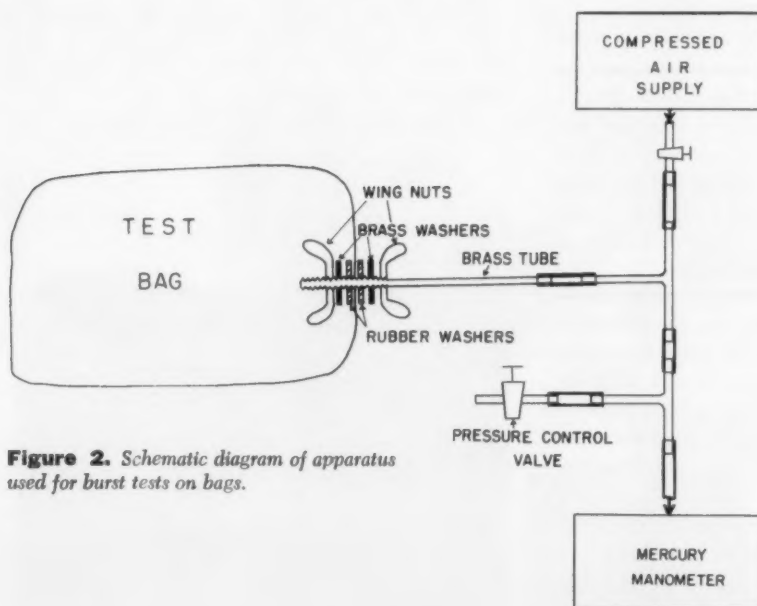
**Figure 2.** Schematic diagram of apparatus used for burst tests on bags.



Figure 3. A typical polyester bag during the test.



Figure 4. A typical polyester bag after failure.

mated by increasing the pressure in the apparatus at the rate of approximately 1 cm. Hg. per 2 sec. by adjusting the pressure-control valve. The pressures at which the bags failed and the points of failure were then noted.

To study the effect of processing in steam on the strength of the films and the heat seals, the bags were heat sealed along the two longer edges and processed 30 min. at 250 deg. F. The internal pressure required to cause failure was then estimated in the normal way after attaching the bag to the apparatus and completing the final heat seal.

Estimations of the bag strengths at processing temperatures were made in a domestic pressure cooker modified so that the brass tube with the bag attached could be fitted through the lid. Measurements were made after the cooker containing the bag filled with air had been at the correct temperature for at least four minutes. When the pressure in the cooker was greater than atmospheric pressure, the burst-strength results were corrected to allow for the excess pressure.

Photographs of typical bags under test and after failure are shown in Figures 3 and 4.

### Results and discussion

The results showing the internal pressures required to cause failure of bags made from several different films under specified conditions are shown in Tables I and II.

Most of the failures to bags tested occurred at areas immediately adjacent to the heat seals, either as leaks or as long tears. The longer heat seals were ruptured in most cases, which agrees with the observations made by Olsson and Pihl (4), who have also shown the usefulness of the method based on burst-strength estimations for evaluating heat-seal

strengths and optimum sealing conditions of films.

Examination of the results in Table I for quenched high-density polyethylene shows that the burst strength of bags made with sealer settings of six, eight and 10 were similar on the unprocessed bags, but a decrease in strength occurred when a setting of five was used. Bags made from blown, 1-mil polyethylene film showed a similar effect at the different sealer settings, but the burst strengths of these bags were higher than those made from the quenched film. Increases in the thickness of the blown tubing resulted in higher bag strengths. With 1-mil polyester film, the results on the unprocessed film indicate that the burst strength was slightly influenced by the number of repeat sealer operations at the maximum setting of 10.

In addition to possessing satisfactory film and heat-seal strength initially, films intended for use with heat-processed foods must satisfy a further important requirement: namely, the strength should not be decreased significantly after the heat process.

The data in Table I indicate that with quenched and 1-mil blown polyethylene, processing in steam for 30 min. at 250 deg. F. [Continued on page 208]

Table II: Results of burst strength of polyester bags after processing at 250° F. for specified times

Material	Process at	Burst strength (cm. Hg.)	
	250° F. (min.)	Range	Mean
Polyester film			
sealed at 6 x 10			
setting	None	11-24	18
	10	13-20	16
	20	8-18	13
	30	8-16	12

# Selecting package cushioning

*Dynamic cushioning-test data are used to determine shock isolation characteristics in an analytical method which can help identify suitable materials.* By R. K. Stern\*

**A** perennial topic that is included in some form in practically every short course or symposium devoted to industrial packaging is "cushioning for shock and vibration control."

Why is there so much interest in this subject? A principal reason is perhaps that many persons have well-founded doubts about whether they are using the most suitable cushioning for the things they are packaging. A shipper can use a wide variety of materials that differ greatly in "cushioning ability" and cost. Obviously, some materials are more suitable for certain applications than others. Also, pertinent cushioning-test data are available for certain materials, but not for others. Consequently, a comparison of the suitability of materials for specific applications, based upon their performance characteristics, is difficult.

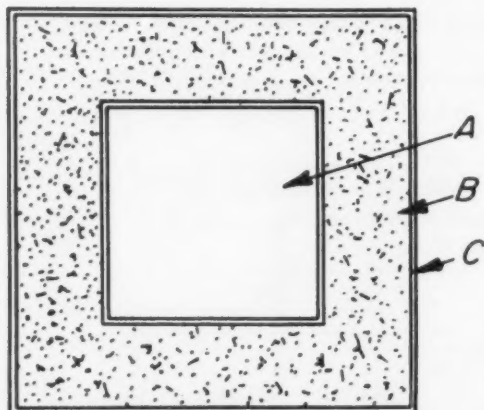
Another important reason for the interest in cushioning methods is the increase in the manufacture of elaborate, delicate and expensive equipment. This has saddled packaging personnel with responsibility to provide adequate packaging protection

within economical limits. The problem of how to select the most suitable material for specific applications with a satisfactory degree of precision has, for many persons, remained unsolved, because shock and vibration control sometimes presents complex engineering problems.

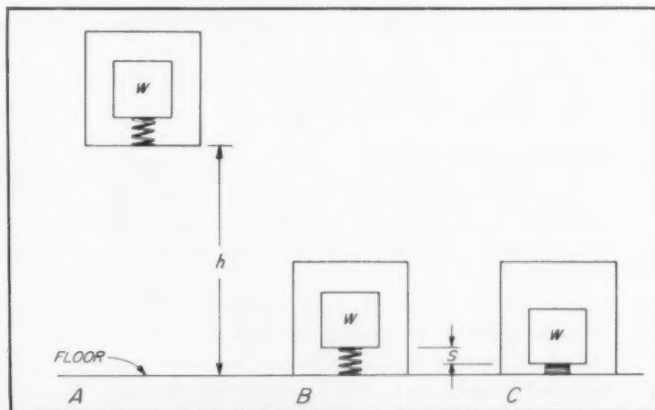
It is the principal purpose of this article to present a method for selecting the most suitable cushioning material for specific applications, with special emphasis on protection from shock. The subject of vibration control has been treated thoroughly by Crede (1)<sup>1</sup> and others. Dynamic compression-test data for rubberized hair, rubberized tampico, urethane foam and glass fibre are also presented. These data were obtained from tests recently conducted by the U. S. Forest Products Laboratory in cooperation with the Materials Laboratory, Wright Air Development Center, Wright-Patterson Air Force Base, Ohio. The principal interest of the Materials Laboratory in these test data was to learn what performance could be expected from the various manufacturers' products—especially with materials that were nominally 2 in. thick. The results enabled the

\*Technologist, Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture. Forest Products Laboratory is maintained at Madison, Wis., in cooperation with the University of Wisconsin.

<sup>1</sup>Numbers in parentheses identify References appended.



**Figure 1.** A cushioned pack consists of A, an article; B, a cushion; C, an outer container.



**Figure 2.** An idealized representation of a package during a drop.



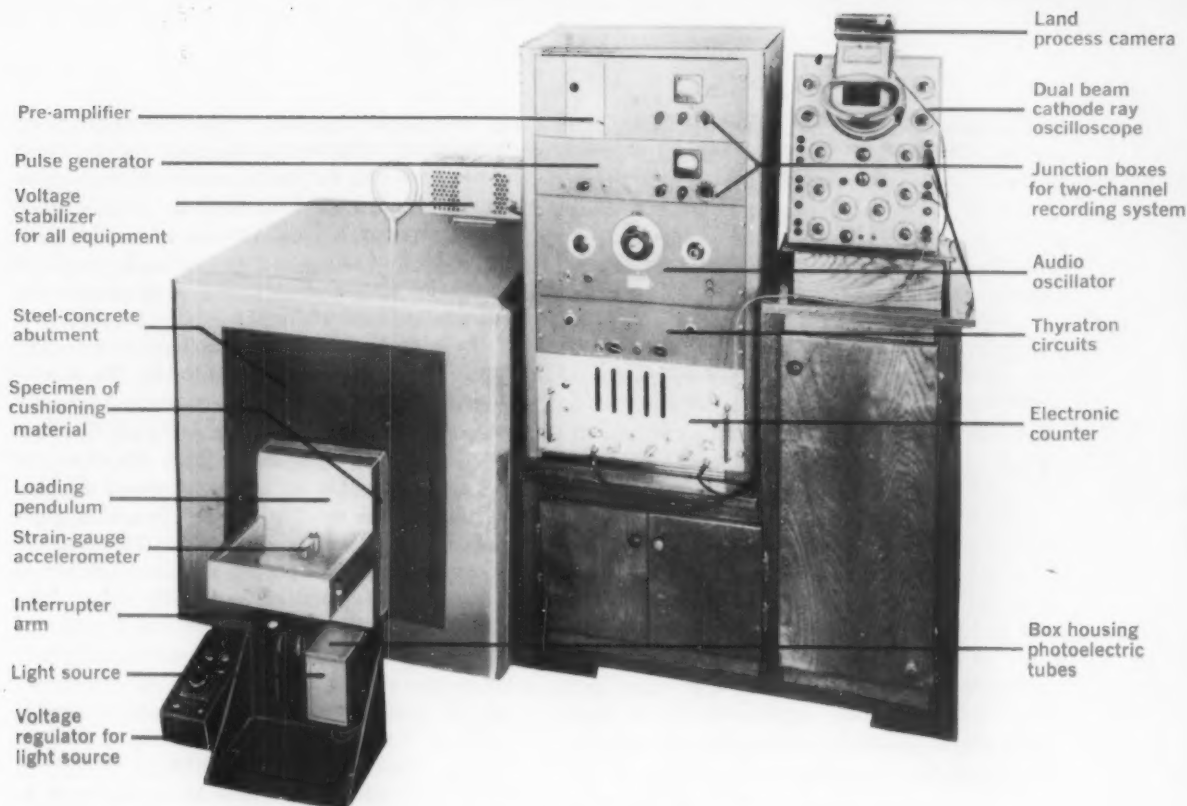


Figure 3. Forest Products Laboratory dynamic compression-testing equipment.

cooperator to set classification limits for these materials in accordance with the performance characteristics set down in Specification MIL-C-26861, "Cushioning Material: General."

The tests primarily involved 2-in.-thick material because this sample thickness is specified in the performance test of the specification. The limitation of sample thickness in the data presented in this article does hamper the utility of the data for general cushioning problems, but the data are useful for showing the relative performance rendered by different kinds of cushioning materials and for demonstrating the use of these data as a means for solving cushioning problems.

#### Fundamental cushioning factors

Everyone who ships fragile items in a package deals with three fundamental factors: the fragility of each item, the shipping hazards (including shock and vibration encountered during shipment) and the cushioning value of the cushioning material and container. More specifically, in any packaging problem the shipper provides what he hopes is the minimum packaging protection needed to reduce the severity of shocks and vibration encountered during shipment to a level below the maximum value that the item can tolerate without breakage.

*Fragility of the item.* The common system used

by packaging engineers for rating the maximum degree of shock that an item can withstand before it will break involves the maximum deceleration that the item can withstand, expressed in multiples of  $g$ , which is the constant acceleration that a freely falling body undergoes because of the force of gravity. The relationship between maximum deceleration,  $G_m$ , and maximum force,  $F_m$ , is obtained from Newton's law

$$F_m = WG_m$$

where  $F_m$  is maximum force in pounds and  $W$  is the weight of the load in pounds.

The deceleration record of a loading head or item during compression of a cushioning material as a function of time has several principal characteristics—maximum or peak deceleration, rise time and duration (or period). That the use of peak deceleration alone as an index of fragility might be an oversimplification can be illustrated by considering an item having one or more fragile elements. In addition to magnitude of deceleration, the resistance of the element or elements to breakage is related to such factors as their resonant frequency, the fatigue resistance of their component materials, the period of the transient deceleration pulse (or the frequency of the pulses, if it is repetitive), as well as the rise time of the pulse.

Consideration of all of these factors is possible

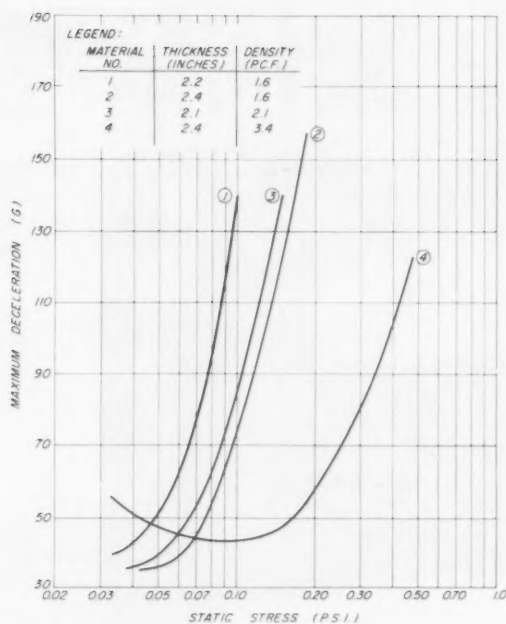


Figure 4. Maximum deceleration-static stress curves for rubberized curled hair made by Manufacturer A.

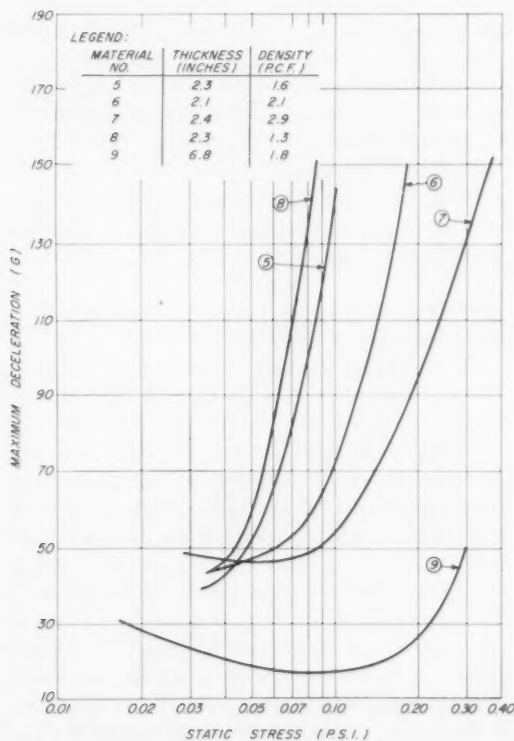


Figure 5. Maximum deceleration-static stress curves for rubberized curled hair made by Manufacturer B.

by testing individual items under the conditions expected during shipment and then correlating damage of the items with the characteristics of the deceleration-time pulses obtained from the tests. Such a testing program is ideal, but expensive. Therefore, the problem of rating an item for fragility has been arbitrarily simplified by using peak deceleration alone as an index of fragility of the item to shock.

The peak deceleration that an item can withstand can be determined by empirical testing. The item is subjected by a shock-testing machine to known impacts, which initially are of low peak deceleration, but which conform in time duration and shape to values that are representative of shipping conditions. The severity of the impacts is gradually increased until the item fails. The peak deceleration corresponding to a point just before failure occurs is taken as the fragility value of the item. This test is repeated, so that the direction of the applied deceleration will be parallel to all three major axes of the item. Items of a single group will vary in manufacturing construction and fragility values will vary accordingly. Development of an average value from a number of tests of different items is one solution to this problem; another is to lower the rating value to compensate for the weaker members of the group. However, it is important that the rating must be realistic, because a rating that is too conservative will eliminate any chance of accurate selection of optimum cushioning materials.

To control the input shock to an item in fragility testing, the item is usually attached rigidly to the movable head of a shock-testing machine. Another fragility testing method involves dropping an item in a cushioned container from low to successively greater heights of drop. One or more accelerometers that are attached rigidly to the item record the deceleration of the item for each drop. The testing is continued until failure occurs and a rating is obtained. This method simplifies the problem of duplicating service-type shock in the laboratory, since the pulse shape of the input shock will automatically conform to that which will occur to the item during shipment.

**Shock received during shipment.** Shock received during shipment is frequently expressed in terms of the maximum expected height of drop in inches, such as 30 or 36 inches. It would be more desirable, of course, to have factual data for the exact nature of shock and vibration conditions encountered by packages during shipment. This information varies, however, with different modes of transportation and shipping routes, and precise recording equipment is required. Work on this problem has been conducted by various agencies, but there is much information yet to be learned about this aspect of

packaging. Among the Government agencies which are currently active in this field are the U. S. Air Force and U. S. Army Corps of Engineers.

*Expressing cushioning performance.* The third fundamental factor is the energy-absorption characteristics of the packaging materials, including the cushioning material and the container.

It is an important fact that the response of some cushioning materials to dynamic loading differs drastically from their response to static loading. This phenomenon is primarily due to the pneumatic effect of the partially entrapped air in the material. The effect is most pronounced in interconnected cellular materials and will vary with the dimensions of material (3, 5). In a static test, the air has sufficient time to escape without absorbing energy. Since the dynamic-test data more nearly represent dropping conditions in actual service, design must be based upon dynamic-test data, unless previous experimentation has shown that the cushioning materials which are under consideration are not appreciably affected by the rate of loading.

#### Effects of dropping

An idealized cushioned package is represented in Figure 1, in which *A* represents the item, *B* the cushioning material and *C* the outer container. In order to analyze the action of this package when it is dropped, it is necessary to represent the package as an idealized mechanical system in which the cushioning material is represented by a spring. Also, it is assumed that, when dropped, the package strikes a rigid dropping surface squarely on a side; that the item is of uniform density; that the mass of the cushioning material is small relative to the item, and that the item within the package will compress the cushioning material without rotation.

When the package is dropped from a height *h* (Figure 2 *A*), it is given a constant acceleration of 32.2 ft. per second per second (*1g*) by gravity. In general, at the moment of impact with the dropping surface (Figure 2 *B*), the outer container stops, but the item in the container compresses the cushion through a distance *S* (Figure 2 *C*). During compression, the cushion absorbs the kinetic energy which the item possessed at the moment of impact and at the instant of maximum compression, the maximum force is exerted upon the item. Thus, the item also is subjected to maximum deceleration at that instant. Ideally, the cushioning material would absorb the kinetic energy at a uniform rate over a relatively large displacement, thus cushioning the item gradually without exerting a stress or deceleration high enough to cause breakage.

The degree of reduction of the impact that is received by the item actually depends upon the cushioning

that is afforded by the container as well as upon the interior cushioning material. Many persons erroneously have disregarded the role of the container because of a rather widely accepted theory that the outer container always affords an intangible amount of additional cushioning that provides a safety factor for design based upon the performance of cushioning materials alone.

Instrumented package drop tests of complete, cushioned packages by various laboratories have shown that the actual shock that is transmitted to the item in a package might vary from considerably higher to lower than the value predicted by the cushioning-test data alone. One common cause for this variation is the fact that containers rebound and their members are set into vibration at their natural frequency as a result of impact. The shock applied to the item is greatest when the item is approaching maximum displacement as it compresses the cushion, while the container member on which the cushion is resting is moving in a direction opposite to that of the item in the container. In this situation, the cushioning material is compressed simultaneously from opposite sides, so that higher stress and acceleration are produced.

This phenomenon is most common to flat drops. Other effects attributable to the container include a pneumatic effect inherent in compression of the cushioning material in the closed air space inside the container and frictional drag of the edges of the cushioning materials on the inner container walls during compression. In view of these facts, it's obvious that "hair splitting" in the use of cushioning-test data for package design should be avoided. Rather, these data and the design method described

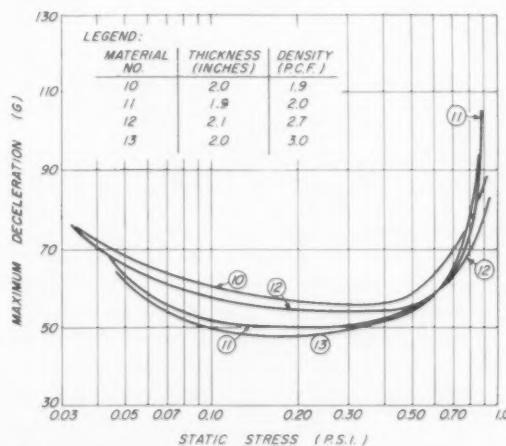


Figure 6. Maximum deceleration-static stress curves for urethane foam.

in this article should be used by the packager as a guide for determining the optimum packaging requisites for his specific cushioning problems.

### Test equipment and procedure

The equipment used at the Forest Products Laboratory to conduct dynamic compression tests of cushioning materials consists essentially of a loading pendulum, a 2-ton steel and concrete abutment and recording equipment. The equipment and its major components are shown in Figure 3. A detailed description of the equipment is available (4).

Prior to testing, the dimensions of the sample are measured, the thickness being measured with the sample under a load of 0.025 lb. per square inch.

A single drop test consists of drawing the pendulum to some predetermined height and allowing it to swing against the sample of cushioning material, which is mounted on a vertical face of the abutment. The sample is first subjected to five impacts with the unloaded lightweight pendulum. Next, it is given five impacts with a somewhat higher load and the procedure repeated with successively higher loads until three to seven loads have been used. One minute is allowed between impacts to permit the sample to regain thickness. Complete deceleration-time pulses are recorded for each drop.

Because some permanent deformation (set) is caused by loading, especially by the first impact with each load, only the records for the second through the fifth impact at each load are used for computing the average peak deceleration of the pendulum at the various loads.

The described testing procedure conforms to the tentative dynamic compression-testing procedure for package cushioning materials which was recently adopted by the American Society for Testing Materials (ASTM), Committee D-10. Actually, the ASTM procedure specifies in broad terms the limitations on equipment to be used and the procedure to be followed for conducting one test, while each material reported in here was given a series of tests.

### Deceleration-static stress curves

A convenient method of expressing the compression characteristics of the materials under consideration involves the use of deceleration-static stress curves. Essentially, a single curve is a graphical representation of the average peak deceleration that items of variable weight, but constant bearing area, will receive when dropped from a particular height onto a single specimen of cushioning material. Each deceleration-static stress curve was obtained by plotting the average peak deceleration value for the second through the fifth drop test against the corresponding weight of the loading head per unit area (static stress) for a series of loads. A different curve is required for each thickness of material and for different loading rates (heights of drop). Deceleration-static stress curves for different thicknesses and densities of various materials are shown in Figures 4 through 10. The description and principal characteristics of the represented materials are listed in Table I. The numbers designating the specific materials in Table I are also used in Figures 4 through 10 to designate the deceleration-static stress curves for the same material.

The curves are good indicators of the type of protection one can expect from the different materials. Generally, more dense materials will offer more protection at higher static stress values than will the less dense materials. This is indicated by the fact that the portions of the curves that correspond to lower deceleration occur at higher values of static stress. Also, the thicker the material, the lower the curve will swing relative to maximum deceleration. Urethane foam (Figure 6, Nos. 10 through 13) provides good protection for an exceptionally large range of items because the segment of the curve that corresponds to 50 to 60 g includes a wide stress range.

To compare variation in cushioning performance caused by manufacturing origin, it is necessary first

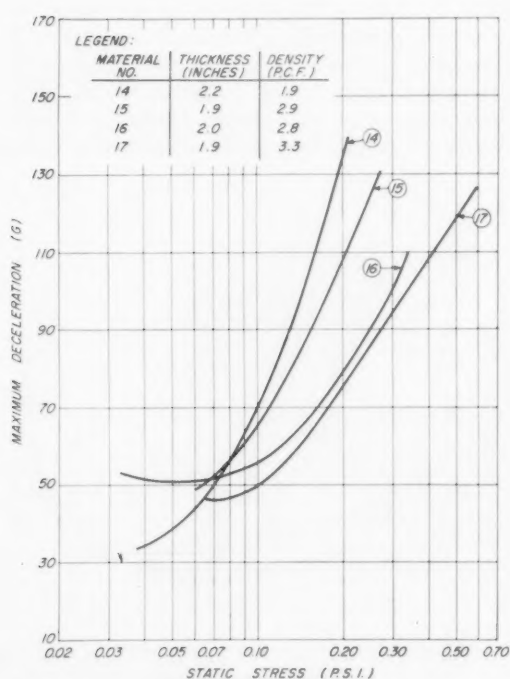


Figure 7. Maximum deceleration-static stress curves for glass fibre material made by Manufacturer D.



to compare the curves for different materials that are similar in thickness and density. Pairs of materials in this series that are best suited for such a comparison are: Nos. 1 and 5 and Nos. 3 and 6, of rubberized hair, and Nos. 14 and 25 and Nos. 16 and 27, of glass fibre. Generally, the curves for these pairs of materials coincided.

However, one glass-fibre material, No. 27, differed considerably from another, No. 16, made by a different manufacturer. For example, at three arbitrarily selected values of static stress the corresponding maximum deceleration for each material was:

Static stress (p.s.i.)	Maximum deceleration	
	No. 16 (G)	No. 27 (G)
0.05	51	42
0.15	67	79
0.30	101	128

It is noteworthy that the materials varied in actual measured thickness from the manufacturer's rated thickness by as much as minus 10% (No. 18) to plus 20% (Nos. 2, 7 and 22) and in density by as much as minus 5% (Nos. 11, 14, 22 and 25) to plus 20% (No. 23). These values provide a general indication of the range of deviation that a person would obtain in ordering cushioning materials of this kind unless, of course, special limitations on its manufacturing were imposed.

#### Method of analysis

A number of characteristics frequently must be considered by the package designer in selecting a suitable cushioning material. These include dusting tendency, elasticity, abrasiveness, water absorption or resistance, tensile strength, flammability, pliability, creep (drift) tendency and vibration damping quality. For brevity, however, this discussion has been limited to the cushioning efficiency of materials for shock isolation.

To solve cushioning problems with deceleration-static stress curves, the packaging engineer must know the approximate fragility values for his items. The more accurately these values are shown, the more accurate will be the cushioning design. Then, the point which corresponds to the fragility (maximum deceleration on the y-axis) and the static stress (weight per unit area on the x-axis) is located on the graph sheets for the various materials being considered. The materials that will protect the item are those that are represented by curves that pass through or below this point. Thus, the curves will indicate which kinds, thicknesses and densities of material will protect the item and which will not.

The portion of each curve corresponding to the minimum deceleration is the most efficient range for

**Table 1: Characteristics of cushioning materials included in this work**

Material No.	No. of samples tested	Description	Manufacturer	Measured thickness*	Manufacturer's rated thickness	Calculated density	Manufacturer's rated density
				(In.)	(In.)	(Lb. per cu. ft.)	(Lb. per cu. ft.)
1	3	Rubberized curled hog and cattle hair (sheet stock)	A	2.2	2	1.6	—
2	3	"	A	2.4	2	1.6	—
3	3	"	A	2.1	2	2.1	—
4	3	"	A	2.4	2	3.4	—
5	3	"	B	2.3	2	1.6	—
6	3	"	B	2.1	2	2.1	—
7	3	"	B	2.4	2	2.9	—
8	3	"	B	2.3	2	1.2	—
9	3	"	B	6.4	6	1.6	—
10	3	Polyester-type urethane foam	C	2.0	2	1.5	1.5
11	3	"	C	2.0	2	1.9	2.0
12	3	"	C	2.1	2	2.7	2.5
13	3	"	C	2.0	2	3.0	3.0
14	3	Glass fibre	D	2.2	2	1.9	2
15	3	"	D	1.9	2	2.9	2.5
16	3	"	D	2.0	2	2.8	2.75
17	3	"	D	1.9	2	3.3	3
18	2	"	E	0.9	1	1.2	1
19	2	"	E	2.0	2	1.0	1
20	2	"	E	3.0	3	1.1	1
21	2	"	E	4.0	4	1.1	1
22	2	"	E	0.6	0.5	1.9	2
23	2	"	E	1.1	1	2.0	2
24	2	"	E	1.6	1.5	2.0	2
25	2	"	E	2.1	2	1.9	2
26	3	"	F	1.9	2	2.3	2
27	3	"	F	1.9	2	2.8	2.5
28	3	"	F	1.9	2	3.6	3
29	3	"	F	1.9	2	6.3	6
30	3	"	G	1.5	1.5	4.1	4
31	3	"	G	1.5	1.5	6.2	6
32	3	Rubberized tampico fibre	H	2.7	—	1.9	—
33	3	"	H	2.7	—	2.8	—
34	3	"	H	2.7	—	3.6	—

\*"Measured thickness" is the average thickness of the two or three samples in each group that are represented by a single number.

the material. It is expedient for the packaging engineer to check all of the likely materials for a particular application and then select the material that will offer adequate protection at the least cost.

To illustrate the use of this method, consider some hypothetical problems.

#### Example 1:

*Given:* A fragile item in the shape of an 8-in. cube can withstand up to 50 g perpendicular to each

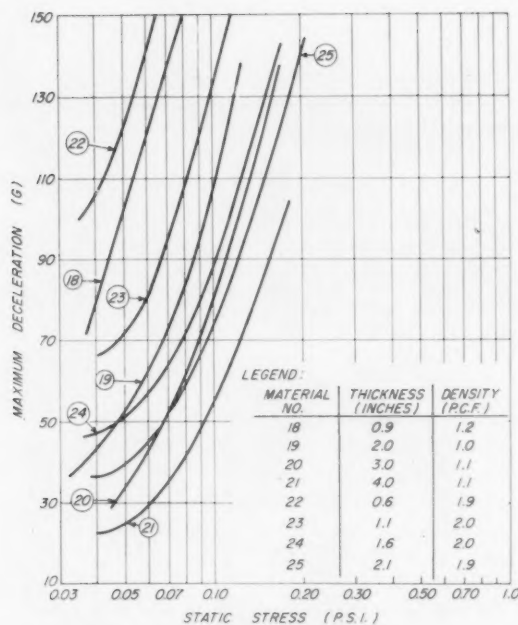


Figure 8. Maximum deceleration-static stress curves for glass fibre material made by Manufacturer E.

side. Item weighs 9.6 lbs. and must have protection for a 30-in. flat drop.

**Problem:** Find the most economical material to package the item.

**Solution:** The static stress (weight per unit area) of the item is  $9.6 \div 64 = 0.15$  p.s.i. Of the materials represented in Figures 4 through 10, only curve 4, Figure 4; curve 9, Figure 5; and curves 11 and 13, Figure 6, pass through or below the point corresponding to 0.15 and 50 g. Obviously, material No. 9, a 6.8-in. rubberized-hair cushion, would be excessive cushioning, so it can be disregarded. It is also evident that materials Nos. 11 and 13, urethane foams that differ only in density, provide nominally the same protection. Since it is desirable to hold the tare weight of the package to a minimum, material No. 11, the less dense of the two, would be preferred. (There is also a good possibility that the direct cost of No. 11 would be less than No. 13.) Therefore, the most likely cushioning materials to consider further are Nos. 11 and 4.

The most economical of the two materials would then be selected after comparing the cost related to the use of each material. One formula that can be used for this purpose is the following:

$$C = [w \times (P + S)] + L \quad (1)$$

where  $C$  is the total direct cost of the material;  $w$  is the weight of material required;  $P$  is the cost of the material per unit weight f.o.b. at the packaging line;  $S$  is the cost per unit weight to ship the cushioning material to its destination, and  $L$  is the cost of labor to apply the material. A cost comparison based

upon this formula should suffice for most instances, but others might require that such factors as package cube, storage facilities and consumer good will be considered along with the more direct costs that are represented in the formula.

#### Example 2:

**Given:** A very fragile item in the shape of a 10-in. cube. Fragility is stated as 20 g without further clarification. Weight is 5 lbs. and the item must be given protection for a 30-in. flat drop.

**Problem:** Find the most suitable material to package this item.

**Solution:** Without more specific information, the engineer must assume that the item can withstand no more than 20 g perpendicular to any side. The static stress of the item is  $5.0 \div (10 \times 10) = 0.05$ . By checking Figures 4 through 10 for the point corresponding to a fragility factor (maximum deceleration value) of 50 and static stress of 0.05, it develops that, of the represented materials, only material No. 9 in Figure 6, a rubberized hair 6.8 in. thick and weighing 1.8 lbs. per cubic foot, will protect the item adequately. Since it is desirable to use the least amount of cushioning material, the packaging engineer would check to see whether a cushion of a bearing area less than that of the item can be used. This would be true here, because the curve for material No. 9 will protect the item from about 0.4 to 0.15 lb. per square inch and the engineer could calculate the maximum allowable reduction in bearing area of the item on the cushioning material as follows:

$$A_{min} = \frac{W}{f_m} \quad (2)$$

where  $A_{min}$  is the minimum bearing area of the item on the cushion and  $f_m$  is the maximum static stress at which the material will protect the item.

$$\text{Thus, } A_{min} = \frac{W}{f_m} = \frac{5.00}{0.15} = 33.3 \text{ sq. in.}$$

This computation would indicate that the most efficient area of this material would be 33.3 square inches. However, there is one difficulty here which must be reconciled—quite thick materials, compressed on a small bearing area, tend to buckle instead of becoming uniformly compressed. This is, of course, undesirable, because the cushioning action of the material is bypassed. According to an empirical formula used by Kerstner (2), a cushion will not buckle when

$$\frac{\sqrt{\text{Area}}}{\text{Thickness}} \geq 1.33$$

Therefore,

$$A_{min} = (1.33T)^2 \quad (3)$$

where  $T$  is the thickness of the cushioning material.

Thus, the practical minimum cushion area that can be used is

$$A_{\min.} = (1.33 \times 6.8)^2 = 82 \text{ sq. in.}$$

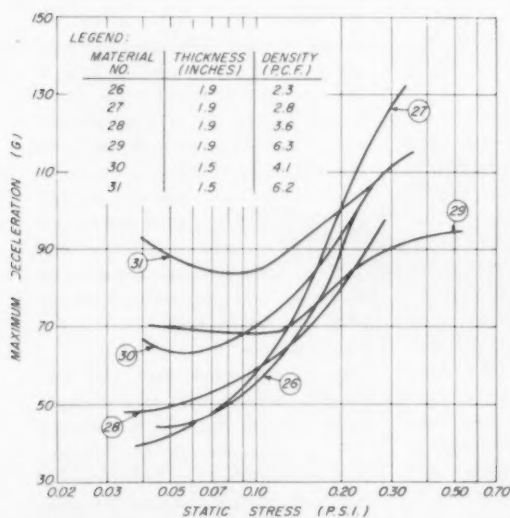
Although no particular difficulty would probably be experienced in maintaining the proper positioning of the cushion in this instance, it is sometimes difficult to maintain a cushion that has a smaller bearing area than the item in the proper position in the container. This can be overcome by the use of die-cut corrugated fibreboard positioning "trays."

#### Example 3:

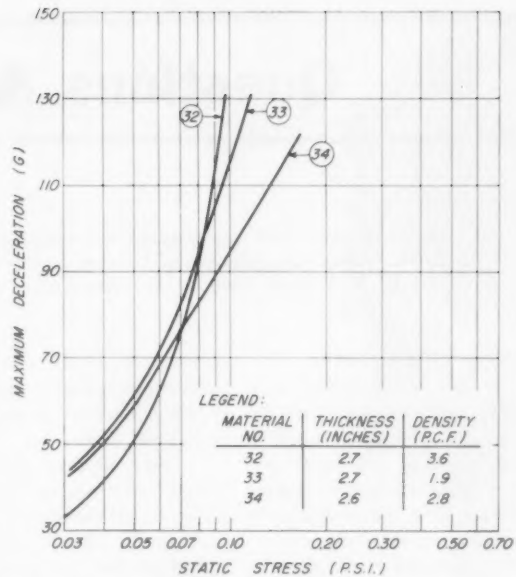
**Given:** A rectangular prism that is 5 by 9 by 4 in. in size. Fragility is stated to be 60 g perpendicular to the sides that are 6 by 9 in. and 4 by 9 in., and 120 g perpendicular to the sides that are 4 by 6 in. The item weighs 6 pounds.

**Problem:** Find the most economical materials that are required to protect the item from a 30-in. flat drop on any side.

**Solution:** The static stress for the 6-by-9-in. sides of the item are  $6 \div 6 \times 9 = 0.11$ . The materials that will protect an item having a bearing area of 0.11 and a fragility of 60 g are Nos. 4, 7, 10, 11, 12, 13, 16, 17, 21, 26, 27 and 28. Because materials Nos. 10 through 13 are urethane foam made by the same manufacturer and vary essentially only in density, we will consider further only the least dense material, No. 10. By similar reasoning, material No. 17 can be eliminated in favor of material No. 16, and Nos. 27 and 28 can be eliminated in favor of No. 26. The least expensive single material of the remaining materials (Nos. 4, 7, 10, 16, 21 and 26) can then be selected by the use of formula (1).



**Figure 9.** Maximum deceleration-static stress curves for glass fibre made by Manufacturers F and G.



**Figure 10.** Maximum deceleration-static stress curves for rubberized tampico fibre made by Manufacturer H.

The static stress of the sides that are 9 by 4 in. is  $6 \div (9 \times 4) = 0.166$ . As shown in Figures 4 through 10, materials 4, 10, 11, 12 and 13 will protect the item adequately. Materials Nos. 11, 12 and 13 can be eliminated in favor of No. 10. The least expensive of materials Nos. 4 and 10 can be determined by the use of formula (1).

The static stress for the sides that are 4 by 6 in. is  $6 \div (6 \times 4) = 0.25$ . At this stress and a fragility value of 120 g, materials Nos. 7, 15, 16, 17, 26 and 31 will protect the item. Materials Nos. 16 and 17 can be eliminated in favor of No. 15 and the most economical material of Nos. 7, 15, 26 and 31 can be determined with the use of the formula.

#### Summary

The decision to use either the cut-and-try method or the analytical methods for solving cushioning problems should be determined primarily by the nature and number of items to be shipped. If an analytical method, such as the one presented in this article, is used to solve cushioning problems, the cushioning selection process can be only as accurate as the approximations for fragility and environmental hazards that are used in the problem. Dynamic cushioning-test data must be used for shock isolation problems, unless experimentation has shown that the specific materials under consideration respond to compression in the same manner regardless of rate of loading. A cushioning selection method such as the one described in this article is based primarily upon cushioning-test data alone and variable phenomena that occur within the package as a result of impact [Continued on page 197]

## Questions & Answers

This consultation service on technical and engineering packaging subjects is at your command. Simply address your questions to Technical Dept., Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

### **Curl in laminated sheets**

**Q:** *We are film converters and print on a wide range of materials. Recently we have been interested in wax laminating of cellophane and have been very successful in making and handling this material in rolls. However, one of our customers requires this material in the form of cut sheets of various sizes. We have had serious problems in supplying his requirements and rejects have been heavy because of curling of the cut sheets.*

*The material we supply is a coated, printed cellophane laminated with a microcrystalline wax to uncoated cellophane. The laminator is a new machine and has good temperature and web-tension controls, plus cooling drums.*

*The curl of the sheets occurs either with or across the grain of the sheet and holding the sheets under pressure does not affect the tendency to curl badly.*

*We could say, "no more cut sheets," but we are anxious to solve the problem by eliminating or greatly reducing the curl. Do you have any suggestions for overcoming this problem? Any comments or suggestions you may make will certainly be greatly appreciated.*

**A:** All laminating processes require careful machine control and selection of materials to minimize distortion and curling of the finished structure. This is especially true if the lamination is to be cut into sheets. However, with the best machine operations, many dissimilar materials cannot be laminated together without serious cockling or curl resulting from changes in ambient temperature and humidity. This is especially true of plastic films laminated to paper or cellophane. Some of these laminations can be fabricated from tightly wound rolls, but may cause serious

distortion in the finished package. Certainly none of these dissimilar laminations can be stored or handled in sheet form.

The combining of a coated cellophane with an uncoated cellophane can be classified as a lamination of dissimilar materials. The coated cellophane has a very slow loss of its internal moisture, while the uncoated cellophane can lose moisture very rapidly. The dimensional stability of cellophane and other cellulose products such as paper is a function of its moisture content.

If you use two coated cellophanes of the same grade, one printed and the other unprinted, the film that has been printed can have a different moisture content than that of the unprinted film.

You should bring into the laminator two cellophanes of the same type and grade and with the same moisture content. The web tensions must be equal and each film should undergo similar heating and cooling in the laminator. The finished web should be wrapped in a moisture-proof wrapper and held under tension regardless of whether it be in roll or sheet form.

Also, the time between laminating and final use should be kept to a minimum and storage must be in a cool place. Even with these controls and conditions, the cut sheets will tend to curl quickly in a dry room after the package has been opened.

The possible answer to your problem is to equip your customer with an inexpensive sheeter that will feed from rolls and cut the web into sheets at the time and point of use. The best answer is for your customer to use roll stock and eliminate the sheeting operation entirely.

### **Greaseproof carton liner**

**Q:** *One of our food products is packaged in a folding carton with an inserted liner made of thin, white*

*kraft paper. This product contains a small amount of fat and in the summer months we notice that the paper liner is heavily spotted with fat stains. This seriously affects the appearance of the package when the product is used.*

*We would like to find for this product a paper that will not be stained by the fat and which would also be economical for this particular use. Can you suggest such a paper?*

**A:** Your product apparently contains a fat that melts at high ambient temperatures and is then absorbed into the kraft paper liner. The result is unattractive to the user of the product and, also, the fat in the paper is more easily subject to oxidation and rancidity.

The best answer is to use a paper that is basically grease resistant, such as glassine or so-called greaseproof paper. These papers are available in a wide range of weights, grades and degrees of bleaching. Your requirement for greaseproofness appears to be marginal and you should try the different grades of glassine and greaseproof papers to find the one that will resist penetration by the fat in your product and also perform well in your carton-lining machine.

You should also ask the supplier of your kraft paper if he can furnish you with samples of a paper that carries a grease-resistant coating or treatment. It is possible that the use of a dry waxed kraft would solve your problem.

It is suggested that you test sample packages with various paper liners at 100 deg. F. to compare their performance with your present package construction. This temperature will simulate summer temperatures and make it possible to compare quickly the various liners for their greaseproofness against your particular food product.

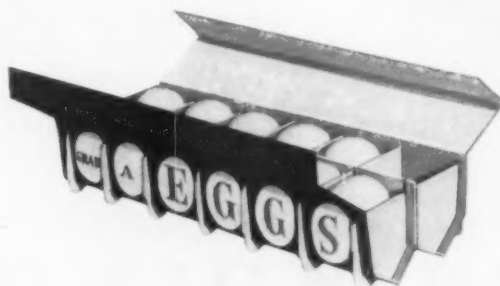


## *Planned Packaging moves merchandise*

### *Ever play catch with an egg?*

If you have, you'll appreciate the terrific protection job egg cartons perform. And they're marvels of packaging ingenuity, too! Just one quick pull on the flaps of this new Form-Fast carton and it snaps open, exposing seven partitions locked in place, ready to cradle a dozen eggs. A simple push closes and locks it again. Resultant filling line savings greatly reduced costs last year in the egg industry . . . helped hold down your family food budget, too!

Creative, cost-saving carton design is but one of countless ways in which Packaging Corporation of America's concept of Planned Packaging, implemented through integrated national facilities, produces better packaging . . . more sales. Whether your requirements are large or small, regional or national, we welcome the opportunity to help you.



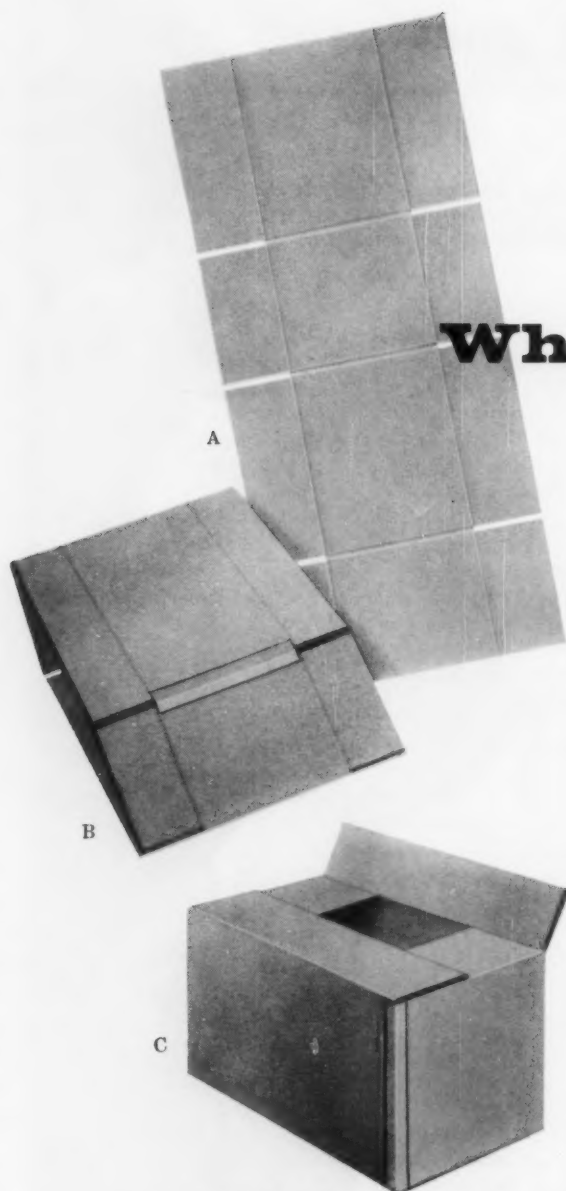
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Cartons • Containers • Displays • Egg Packaging Products • Molded Pulp Products • Paperboards

*What you should know about*

## What should a box



A. Scored and slotted sheet  
B. Folded and taped  
C. Assembled box

**T**he “creases”, or scores, on corrugated boxes facilitate folding. When straight, and properly formed, they make your packing job easier and faster, assure maximum strength and serviceability of the box.

But just being straight isn't enough. Too narrow or too shallow a score sets up internal stresses, makes the box hard to fold. Too deep, weakens the board, makes the fold easy to tear and come apart during shipment.

### What makes a perfect score?

It depends largely on the thickness and type of board, the scoring process, what you are shipping, and



Scoring the sheet

how it is shipped. First, the score must fold without cracking the board. It must also fold straight, regardless of the direction of the corrugations. It must not cramp the inner liners too much when folded at 180°. And it must, under test, withstand

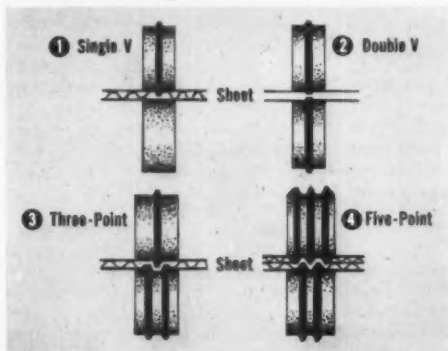
## scoring and slotting of Union Boxes

# "crease" be...besides straight?

combined tearing, bending and tension forces simulating those it will meet in actual service.

### The different kinds of scores

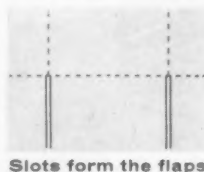
There are four basic methods of scoring corrugated board. 1. The "Single V" crease—most commonly used when the direction of the score is parallel to the corrugations. 2. The "Double V"—generally used *across* the corrugations and where a clean, good-looking fold is essential. 3. The "Three-Point" crease—good both "with" and "across" corrugations. Used where high



tearing strength is paramount. And 4., the "Five-Point" crease. This, too, scores both ways. It is used almost exclusively for double wall board.

### The importance of slotting

Slots, cut by razor-sharp knives, form the top and bottom flaps of your corrugated box. Each slot must cut to an exact width, and at right angles to the flap scores so that the folded flaps will be perfectly parallel where they come together. The knives must cut a clean slot, without ragged edges or "lint". Improper slotting can seriously impair the appearance and protective qualities of your finished box.



At Union, slotting and scoring of corrugated containers is an exact science. It's one small part of Union's complete structural design service to assure you maximum product protection. It's one of the reasons why Union-engineered boxes are used consistently by shippers in every industry.



Write for Union's free, informative booklet "Manufacturing Corrugated Boxes."

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Western Division—4545 W. Palmer, Chicago, Ill.

# Plants & People

Plans for a merger have been agreed to by officers of **The KVP Co.** and **Sutherland Paper Co.**, both Kalamazoo, Mich. The proposal will be presented to the respective boards of directors and stockholders for approval. In a joint announcement of the planned merger, the two paper-supplying companies point out their combined resources will make possible further growth and will accelerate the development of improved grades of paper and board.

**Lester R. Edwards**, v.p. of **Owens-Illinois Glass Co.**, Toledo, moves up to the newly created post of v.p.-marketing for the O-I forest-products group. The group includes the company's Paper Products, Mill and Multiwall Bag Divs., as well as **National Container Corp.** of California. **Edwin D. Dodd** succeeds Mr. Edwards as gen. mgr. of the Paper Products Div. The div. operates 19 corrugated-shipping-container plants.

**W. J. Bader** has been promoted to the post of sales mgr. of the packaging div.



Bader

of **The Do-beckmun Co.**, Cleveland, a div. of **The Dow Chemical Co.** He succeeds **W. W. Clark, III**, resigned. **W. H. Troph**, formerly regional

sales mgr. of the industrial div., has assumed the position of sales mgr. for laminated and extruded products. Both men have been associated with the company since 1946 in sales posts.

**Samuel F. Schillaci** has been appointed v.p. of mktg. for **Plax Corp.**, Hartford, Conn. He was formerly v.p. in charge of administration.

**Dr. Gaston G. Kohn** has been named to organize and head a technical-service, research and quality-control section for **Metalgrafica Canco, S. A.**, a can-making affiliate of **American Can International, Inc.**, in Sao Paulo, Brazil.

A worldwide paper-industry licensing program—under which licensee companies will share research and technical advances in the manufacture of **Clupak** stretchable kraft paper—has been organized by **Clupak, Inc.**, New York. The company owns the trademark and patents on the flexible, tear-resistant paper. Under terms of the program, manufacture of **Clupak** paper is open to any paper company in the world at a fixed royalty fee. Each company so licensed may sell its product anywhere in the world in competition with other licensees. **Clupak, Inc.**, will pass on to

every company under license information on all advances made by other licensed companies.

**Reynolds Metals Co.**, Richmond, Va., has created a separate baking-industry packaging group. Named to head it is **Merrill A. Grogel**, formerly director of foil containers and rigid aluminum packaging forms. The new set-up, established as a result of Reynolds' research and development in the baked-products field, will make available newly engineered aluminum-foil containers, new container shapes that wrap on standard equipment and new foil-lined wrapping materials for breads, rolls and sweet goods. Mr. Grogel was formerly with the **Package Market Research Institute**.



Grogel

**C. M. Carson** is the new exec. v.p. of **Hoerner Boxes, Inc.**, Keokuk, Iowa. **J. C. Perry** succeeds him as gen. mgr. of the company's Minneapolis plant. **C. C. Jackson, Jr.**, has taken Mr. Perry's former position as sales mgr. at the plant. **J. F. Raney**, v.p., has assumed the newly created position of director of marketing. **Glen A. Ware** has been promoted to mgr. of Hoerner's Ottumwa facility. **R. N. Hoerner, Jr.**, has been named asst. to Mr. Raney. **J. V. Wilson**, v.p., is now gen. mgr. of the Fort Worth plant. **G. G. Warren** has been appointed sales mgr. at the same location.

**C. M. Green** has been elected exec. v.p. and gen. mgr. of **Mosinee Paper Mills Co.**, Mosinee, Wis. He had been v.p. and gen. mgr. since 1957. **Robert T. Seith** has been named sales mgr. of the company. He succeeds **John R. Diggs**, retired. Mr. Seith, with the company since 1949, has been active in a number of Mosinee paper developments.

**S. R. Panter** becomes sales mgr. for the Eastern region of **Continental Can Co.'s**



Panter

**Paper Container Div.** He will headquarter at Montclair, N.J. **W. J. Simons** has been appointed to handle sales in the div.'s Central region, covering the Mid-

west states. He will work out of Concan's Chicago office. Succeeding him as mgr. of sales and price administration is **R. J. Norman**. Mr. Norman was formerly in charge of packaging sales in the Eastern area. **T. P. McGlynn** has been promoted to div. mgr. of market and new product development. He will

locate at Newark, N. J. **M. W. Ashby** has transferred to the div.'s Montclair, N.J., location, where he will be responsible for plastic-bottle sales.

Major expansion that will eventually increase by 50% research and technical development facilities of **National Starch & Chemical Corp.**, New York, is under way at the company's **Alexander Research Labs** in Plainfield, N.J.

**Celanese Chemical Co.**, sub. **Celanese Corp. of America**, New York, has appointed four new vice presidents. **David D. Hecht**, v.p. of product development, and **Robert H. Kampschulte**, v.p. of sales, both will operate from the company's New York headquarters. **Henry K. Dice**, v.p. and tech. director, will locate at Celanese laboratories in Clarkwood, Tex. **Ernest T. Lindsey**, v.p. in charge of mfg., will work from the Corpus Christi, Tex., plant.



Dowling

The appointment of **Fenton J. Dowling** as mgr. of the marketing div. of its sales dept. has been announced by **American Can Co.**, New York. Mr. Dowling, formerly asst. mgr. of the div., succeeds **Edward K. Walsh**, who has been appointed an asst. to the v.p. of the sales dept.


**Donald H. Brewer** is the newly elected v.p. of **Rexall Drug & Chemical Co.**, Los Angeles. Mr. Brewer, who was formerly senior v.p. of **Container Corp. of America**, will be the Rexall corporate officer in charge of all plastics processing operations. Among the companies reporting to Mr. Brewer will be **Injection Molding Co.** and **Chippewa Plastics, Inc.**

A new pilot plant has been added to the **Plastics Div. Research Laboratory** of **Consolidated Paper Co.**, Monroe, Mich. Both laboratory and pilot plant are under the supervision of **Howard Blandin**. The company reports that its research facilities have successfully developed new thermosetting and thermoplastic resin forming-board materials for a wide range of applications.

In line with its expanded emphasis on research and development, **Consolidated** also has promoted **William Lunsford** to the position of technical mgr. of all plant operations.

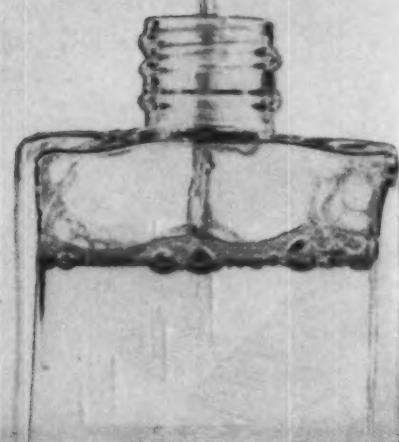
**Austin W. Fisher, Jr.**, has been named v.p. and director of research for **Ludlow Papers, Inc.**, Needham Heights, Mass. Dr. Fisher will be responsible for research and development in both the fine-paper and industrial-papers divs., [Continued on page 154]





Fill  
and  
forget

with  
BEETLE®  
plastic  
caps



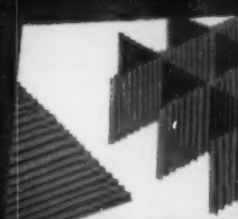
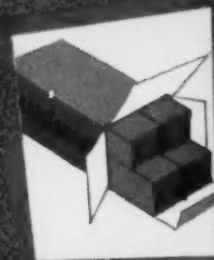
Manufacturers of consumer products using container caps know that BEETLE® plastic has never failed them in twenty-five years of steady use..... Even perfume esters and acetone solvents make no headway against molded BEETLE urea..... On the shelf, BEETLE closures won't build up electrostatic charges that attract unsightly dust. And they hold firm and tight during shipment and storage..... BEETLE comes in any color, can be molded in practically any shape, to fit any design..... Keep your customers happy and content by specifying BEETLE plastic caps every time.....

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# and greaseproof papers

Here are versatile papers that economically provide basic protection essential to good packaging... foods in wide variety, pharmaceuticals, and industrial products... from cereals to tea... bandages to piston rings.

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Inherent barrier properties of Glassine and Greaseproof papers make them ideal for diverse packaging chores.

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3. Vapor and odor resistance
4. High tensile strength
5. Wide range of basis weights
6. High gloss and smooth finish (Glassine)
7. Transparency, opacity, variety of colors
8. High density
9. An excellent coating base and printing surface
10. High ratio of mullen to basis weight
11. Compatibility with other packaging materials
12. Approved wet-strength properties

The built-in characteristics differentiating Glassine and Greaseproof from other papers may be enhanced by conversion. Coating, waxing, laminated combinations... and the addition of extra properties... heatseal, water-vapor resistance, gloss and release properties.

Glassine and Greaseproof are truly remarkable papers... available in standard grades or tailor-made to exacting requirements.

#### AMONG THE MANY APPLICATIONS FOR GLASSINE AND GREASEPROOF...

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Bags and bag liners  
Package overwraps  
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Carton inner wraps  
Canister and fiber tube laminations  
Candy and cookie cups  
Retail food service wrap  
Package accessories and labels  
Corrugation

"Work Horse" Protective  
Packaging Materials  
that do so many jobs  
so well... at so low a cost



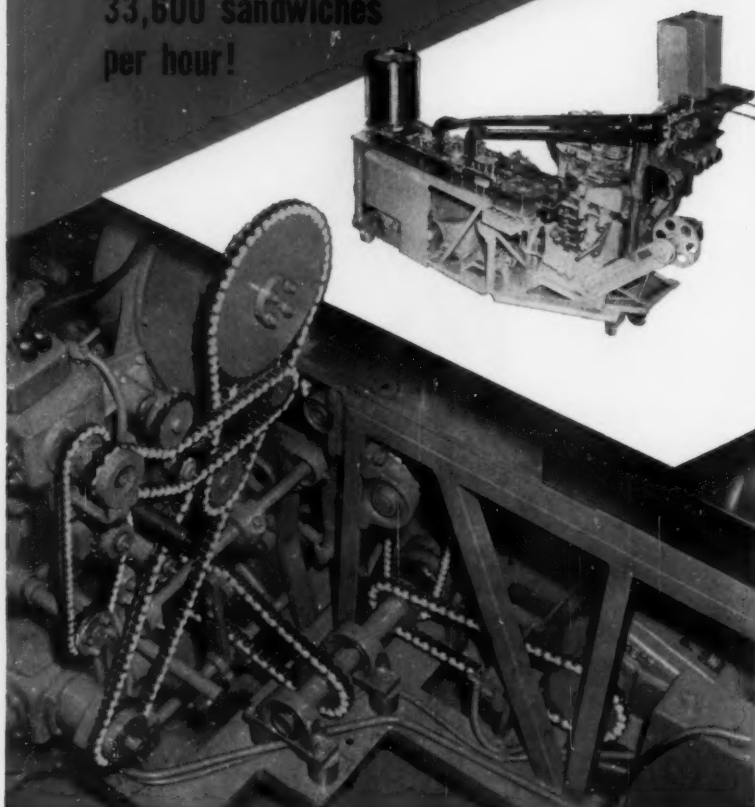
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# DIAMOND



# ROLLER CHAINS

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## Plants & People [Cont'd]

[Continued from page 150]

which includes gummed label papers, specialty coated papers and industrial packaging papers and sealing tapes.

The increased demand for plastic bottles for liquid detergents has prompted the current 40,000-sq.-ft. expansion of facilities by Olympic Plastics Co., Los Angeles. The company, now producing linear polyethylene containers for the detergent industry, is a sub. of Cutter Laboratories, Berkeley, Calif.



Fritscher

Thomas E. Fritscher has been appointed field sales mgr. for Chippewa Plastics Co., Chippewa Falls, Wis. He succeeds Robert F. Hrudka, recently resigned as v.p. in charge of sales. Mr. Fritscher, who joined the company last June, was formerly with U. S. Industrial Chemicals in Chicago. Previously, he had been associated with both Continental Can and Allied Chemical & Dye.

Minnesota Mining & Mfg. Co., St. Paul, has appointed Joseph C. Duke to the newly created position of exec. v.p. for sales administration and p.r. C. C. March has been named group v.p., succeeding Mr. Duke. J. F. Whitcomb has been promoted to gen. mgr. of the coated-abrasives div. According to the company, Mr. Duke's appointment has been made in anticipation of the retirement of L. F. Weyand, exec. v.p. and director of sales. Arthur E. Eggert, retired as v.p. for p.r., will continue to serve in an advisory capacity.



Zebe

Ernest G. Zebe, Jr., becomes director of product sales development for the corrugated-box divs. of Stone Container Corp., Chicago. He will supervise laboratory and field testing of new corrugated packages. Project engineer at Stone Container's Eastern Div. in Philadelphia for the past five years, Mr. Zebe directed development of foil-laminated corrugated and moistureproof corrugated packages for various markets.

Kenneth Tench has been named product-development specialist by The Gardner Div., Diamond National Corp., Middletown, O. He will develop new ideas in the retail box field.

Nosco Plastics, Inc., Erie, Pa., has set up a blow-molding dept., which, the company says, will provide versatility in production and materials selection. The new dept. is equipped for blow molding pieces up to two-quart size at a high daily capacity. Any extrudable plastic material can be employed.

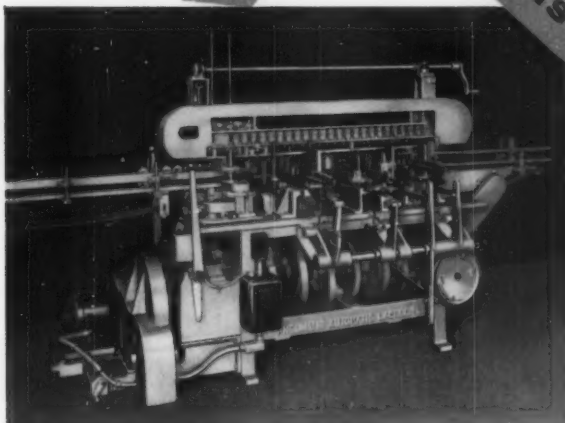
A new corporation has been formed to manufacture and market all types of polyethylene film. The Phillips-Joanna





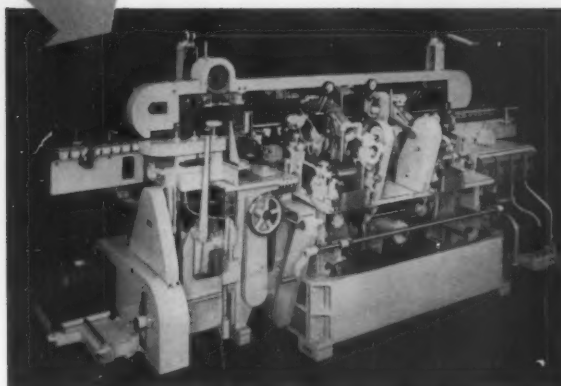
Portable bench type labeler for convenient application to wide range of shapes in glass, boxes, cartons, books and other objects. Offers full-surface gluing for high quality results. Changing from one job to another is a simple procedure, taking a maximum of five minutes.

Basically a semi-automatic unit, this model is easily made automatic by the use of available auxiliary attachments. Designed by Jagenberg of Dusseldorf, this precision built labeler is sold exclusively in the United States by Pneumatic.



This 4" Simplex unit is one of several models offered by Pneumatic as standard labeling equipment for over thirty years. Using 'glue on bottle' method for label pick-off, the McDonald Labeler has proved its efficiency in literally hundreds of installations. All models are well equipped with safety devices to prevent loss of production time and materials. Round, oval or rectangular shapes may be run with front only or both front and back labels being applied simultaneously.

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Duplex in action, this Labeler handles two containers at a time for front only or both front and back application. A three-station indexing turret with suction pads picks labels off bottom of label stack as turret revolves in counter-clockwise direction. Each label receives thin, uniform coating of adhesive from roller and is given time to "temper" as it travels to next station. At final position of turret, the label is transferred directly, through contact, to bottle. Continuous straight-through intake provides gentle handling of glassware, and bottles are in positive control throughout labeling process. Equipment includes "no bottle, no label" and "no label, no glue" safeties.



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## Plants & People [Cont'd]

Co., Ladd, Ill., is owned jointly by Phillips Petroleum Co., Bartlesville, Okla., and Joanna Western Mills Co., Chicago. Robert F. Hrudka is sales mgr., working from Chicago offices at 2141 S. Jefferson Ave. F. L. Regnery is pres. and T. L. Cabbage, v.p. Commercial production will begin in 1960.

California & Hawaiian Sugar Refining Corp., San Francisco, has appointed William G. Watt as mgr. of purchasing and packaging. He will also serve as secy. to the research and development committee on matters pertaining to packaging. Mr. Watt has been active in purchasing and packaging with the company since 1937.

A total of \$12 million will be invested in a two-year expansion program of the Packaging Div. of Olin Mathieson Chemical Corp., New York. The expansion will include increased production efficiency and improved customer service as well as development of new packaging products.



Welsch

Jack Welsch joins Thatcher Glass Mfg. Co., New York, as v.p. of glass container sales. He was formerly v.p. in charge of mktg. for O. M. Scott & Sons of Marysville, O. He will locate in the New York executive offices. The company also reports that construction is under way on a \$3.5-million glass-container plant in Tampa, Fla. It will be the company's eighth manufacturing location.

E. W. Smith has resigned as pres. and member of the board of Sutherland Paper Co., Kalamazoo, Mich.

Roger Warner has been promoted to mgr. of the engineering dept. of the Research & Development div., The Champion Paper & Fibre Co., Hamilton, O. He succeeds Robert Forrest, now asst. director of general plant engineering in the operations group. Preston Daneff has been promoted to electrical research and development group leader. John Teare has been named mgr. of the div.'s patent, information and technical services dept. He succeeds T. Edward Knapp, now head of the European and licensing div. In addition, a chemical-products research group has been established. Named to the new group were Cornelius Betten, Harold Judd and James Stone.

Pamarco, Inc., Roselle, N. J., is now affiliated with the European engraving firm of Keller-Dorian Graveur, Lyons, France. Under the terms of the agreement, Pamarco acquires the complete line of Keller-Dorian's embossing patterns plus dies and specialized equipment necessary to operate as U. S. manufacturing counterpart of the European firm. Pamarco will produce for the U. S. market all designs, current and future, produced by Keller-Dorian.

West Virginia Pulp & Paper Co., New York, has consolidated its kraft-paper and container-board sales groups into a unified sales organization. The move was made to broaden market coverage for kraft div. products and to increase sales and technical service, according to the company. Robert S. Kettrick will head the new set-up, to be known as Kraft Div. Sales. In the newly created post of special asst. to the v.p. of sales, Alfred S. Nalle will be responsible for special projects in connection with Westvaco's over-all marketing program and also will be liaison with various governmental agencies and trade associations. There will be two districts in Kraft Div. Sales. John M. McClure, mgr. of the Eastern district, will headquarter in New York. Donald J. Beardsley will manage the Midwestern district from Chicago. Thomas A. Duncan, formerly in charge of Midwestern kraft-paper sales, has transferred to Baltimore as district mgr. for Hinde & Dauch Div. corrugated products.

Kettrick Nalle

Edward A. Taub has been elected v.p. in charge of corrugated manufacturing at all corrugated plants by Interstate Container Corp., Glendale, N. Y. Mr. Taub's most recent position was that of v.p. in charge of mfg. at the A&P Corrugated Box Corp. Prior to that, he was v.p. of production for the Gibraltar Corrugated Paper Co.



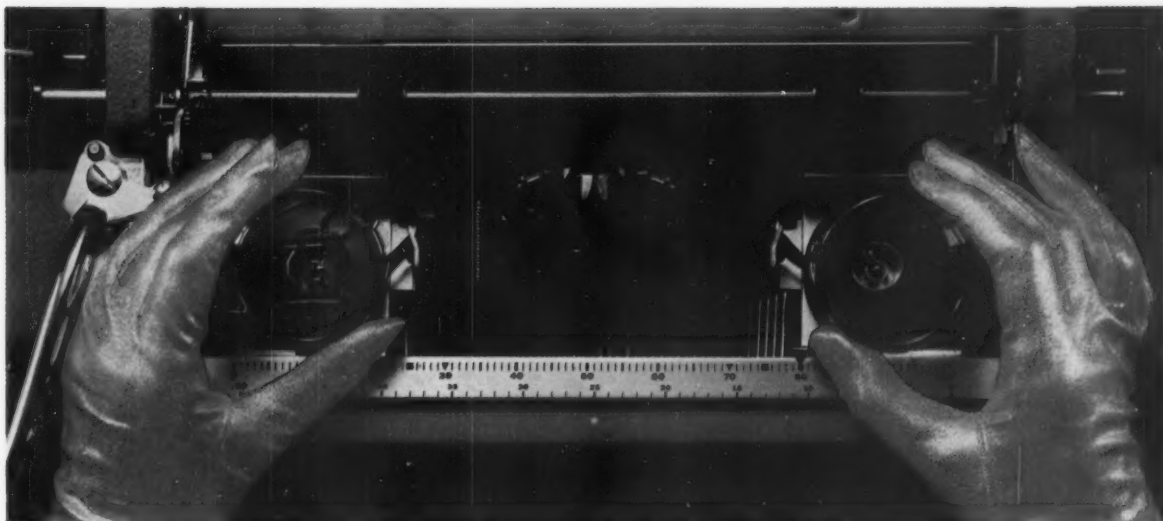
Haskin

Inta-Roto Machine Co., Richmond, Va., has begun a program of development and expansion in its printing-equipment div. Under the supervision of L. H. Haskin, Jr., recently appointed head of the div., accelerated development and sales of the company's roll-fed printing equipment is planned. Mr. Haskin joined Inta-Roto last June after service with E. G. Staude Mfg. Co. as chief engineer of the rotogravure press division.

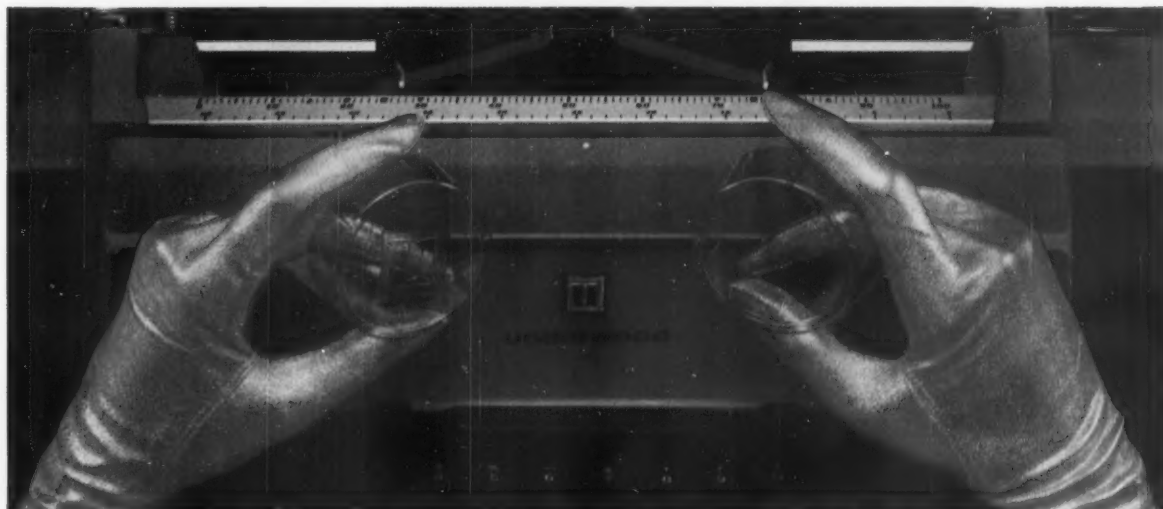
Brown & Bailey Co., Philadelphia, has named J. P. C. Ludlow as sales mgr. Mr. Ludlow was formerly Eastern sales mgr. for the John Oster Mfg. Co. Brown & Bailey makes folding cartons.

Allen C. Wilcox, Jr., has been named gen. mgr. of the newly created Hawaii Packaging Div. of Fibreboard Paper Products Corp., San Francisco.

Kartridg-Pak Machine Co. of Chicago and its Mojonner Associates Div., Franklin Park, Ill., will henceforth be known as the Kartridg Pak Co. The Mojonner name will no longer be used. Officers of the Kartridg Pak Co. include: A. C. Bolz, board chairman; Harold M. [Continued on page 160]



1. She places two spools in position on the spindles...



2. She removes two halves of a protecting transparent container...

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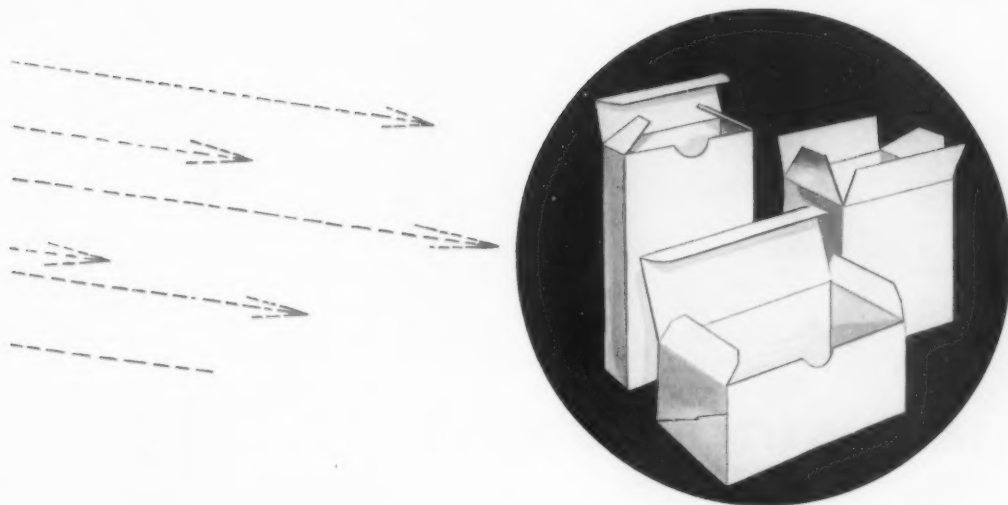


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You need the carton that closes the sale  
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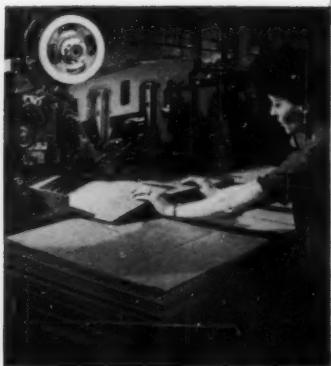


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## Plants & People

[Continued from page 156]

Mayer, pres., George W. Heath, v.p. and gen. mgr.; Robert M. Bolz, v.p. of sales and service for the Davenport plant, and John Schuette, v.p. and plant mgr., Davenport.

Frank W. Kimball is now v.p. in charge of West Coast operations for National Packaging Corp., Fort Wayne, Ind. He will supervise manufacturing and sales in the area from company offices at 2330 W. Third St., Los Angeles. Prior to his present appointment, Mr. Kimball was West Coast mgr. of the Panta-Pak Div. of The Pantasote Co. National Packaging makes vacuum-formed trays used in the packaging of candy, cookies, fruits, cosmetics and other commodities.



Kimball

Shawinigan Resins Corp., Springfield, Mass., plans to double its production capacity for Gelvatol polyvinyl-alcohol resins. Completion of the new facilities is scheduled for the end of the year, with production expected within a few months. Addition of the new unit, says the firm, will permit production diversification into specialty grades of resin, while allowing for adequate quantities of standard large-volume grades.

Crown Cork & Seal Co., Philadelphia, has formed a Dairy Div., to concentrate on products and equipment made by Crown exclusively for the dairy industry. William I. Lang becomes gen. mgr. of the new set-up.



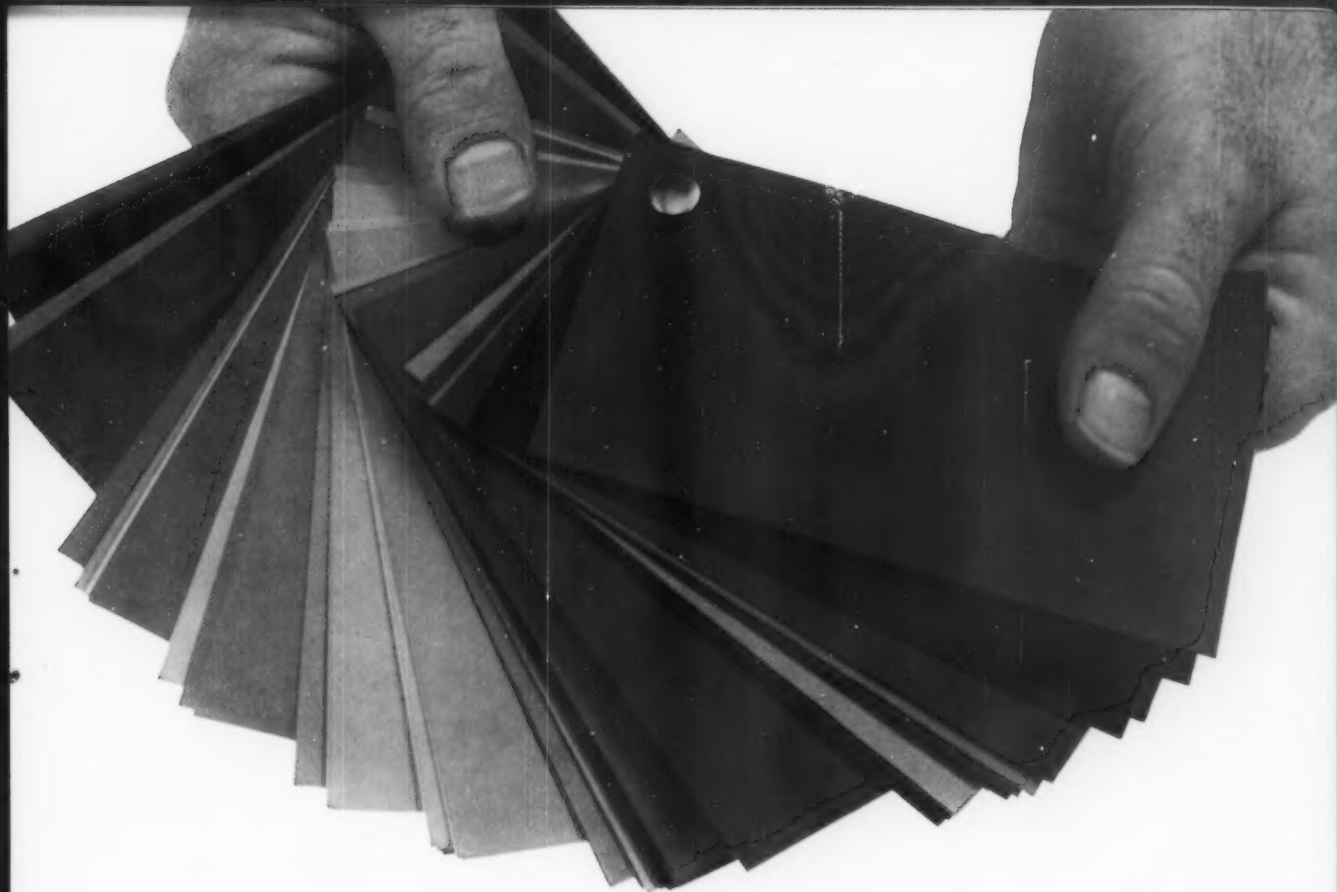
Schopf

William G. Schopf has been appointed director of p.r. and advtg. for Packaging Corp. of America, Rittman, O. He was formerly in charge of p.r. for American Box Board Co., which recently merged with the Ohio Boxboard Co. and the Central Fibre Products Co. to form Packaging Corp. of America.

U. S. Industrial Chemicals Co., New York, is increasing its production capacity of Petrothene polyethylene resins by 50 million pounds. Current expansions are expected to be complete by next summer, when the company hopes to reach its production-capacity goal of 300 million pounds of resin.

Bakan Plastics, Inc., has merged with Cook Chemical Co., Kansas City, Mo., and will be operated as Bakan Plastics Div., Cook Chemical Co. General offices will be located at 2500 Summit St. in Kansas City.

The John Waldron Corp., sub. Midland-Ross Corp., and the Hartig Extruder Div. of the same company, have been combined as the Waldron-Hartig Div. of Midland-Ross Corp. Waldron, in New Brunswick, N. J., makes process machinery for paper, plastic, film, foil



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## Plants & People [Cont'd]

and metal webs. Hartig Extruders, located in Mountainside, N. J., manufactures plastic extrusion equipment. Manufacturing, sales and engineering of both plants will continue to operate as before.

Brockway Glass Co., Brockway, Pa., will erect a multi-million-dollar glass-container-manufacturing plant near Minneapolis. Construction is scheduled to begin next spring.

Chase Bag Co. has moved its executive offices to a recently completed office building at 355 Lexington Ave. in New York. The company makes paper, plastic, textile and open-mesh bags.

National Can Corp., Chicago, has announced plans for a 60,000-sq.-ft. manufacturing plant at Yakima, Wash. Annual production capacity will be about 100 million cans.

Initiating an expansion program designed to triple its production of extrusion-coated packaging films, Print-A-Tube Co., Rochelle Park, N. J. recently started production at a new 15,000-sq.-ft. plant in Paterson, N. J.

Providence Lithograph Co., Providence, R. I., has formed a new sub., Federated Lithographers-Printers, Inc. Officers of the new firm, located at 369 Prairie Ave. in Providence, are: Roger K. Richardson, pres. and treas.; Harvey W. Burgher, exec. v.p., and Milton E. Kingsley, vice president.

A \$400,000 expansion of facilities has more than doubled corrugated-shipping-container-production capacity at the Detroit plant of Stone Container Corp.'s Western Paper Box Div. The installation of a large new corrugator now allows the company to process its own corrugated stock.

Wyomissing Paper Products Co., Reading, Pa., has completed a new plant near Reading.

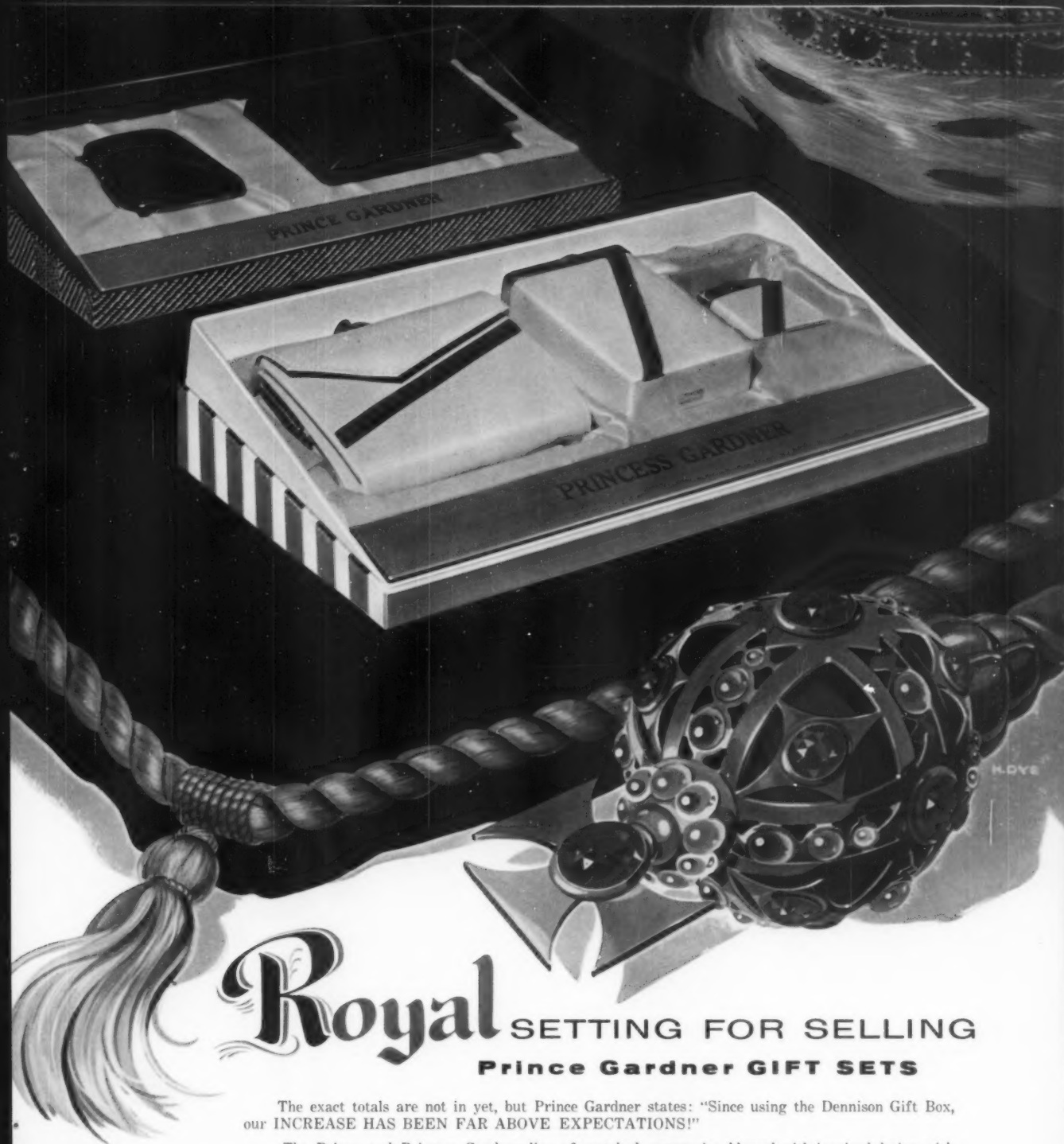
Sidney Yakerson, consulting engineer, has been named U.S. representative for T. H. Dixon & Co., Letchworth, England, maker of special-purpose paper and converting machinery. Mr. Yakerson's address is 29 Spiral Lane, Levittown, N.Y.

Bemis Bro. Bag Co., St. Louis, is constructing a new manufacturing plant in the San Francisco Bay area. The facility, which is expected to be completed late next spring, will replace the company's present San Francisco location.

William B. Sanford, Inc., 601 W. 26 St., New York, has been appointed exclusive sales agency for the Saga Packaging Machinery Div. of A & M Tool & Die Co., Southbridge, Mass.

The ninth unit in American Can Co.'s national network of coil-processing centers has been installed in the company's Halethorpe, Md., plant. Scheduled to commence operations this month, the





# Royal

## SETTING FOR SELLING Prince Gardner GIFT SETS

The exact totals are not in yet, but Prince Gardner states: "Since using the Dennison Gift Box, our INCREASE HAS BEEN FAR ABOVE EXPECTATIONS!"

The Prince and Princess Gardner line of matched accessories, blessed with inspired design, rich color and superb craftsmanship, deserved a royal setting at a realistic cost.

Dennison package designers conferred with Prince Gardner's promotion specialists and then created the gift boxes shown above. Bold stripes of white and gold, masculine tweeds, lustrous satin lining, all enrich the giftworthiness of these handsome sets. And they tilt up to become eye-catchers on any counter. Result: Prince Gardner states: "... we have realized a considerable sales increase."

Dennison sets the pace in this complex field of packaging... in design, skill, artistry, market research and manufacturing facilities. To give your product its best chance for sales success, doesn't it make good sense to talk to the men who have the most success stories?

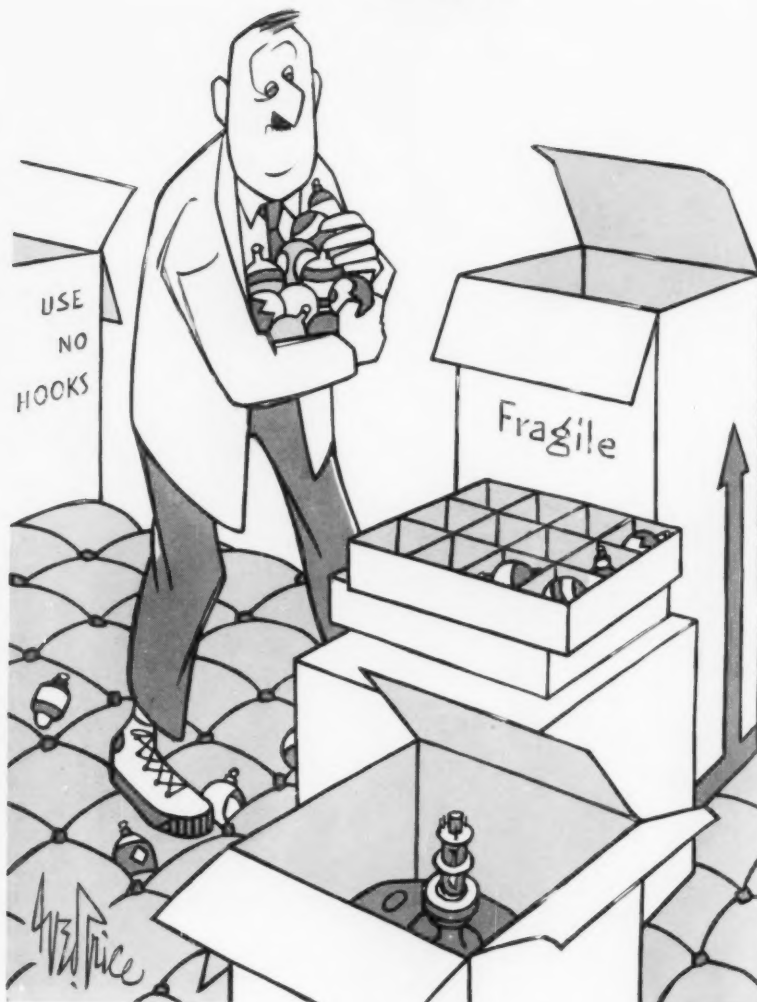
Write: Dennison, Box Division, Marlboro, Massachusetts.

# Dennison



HELPING YOU COMPETE MORE EFFECTIVELY

Another in a series of Hoerner  
Corrugated Shipping  
Container Experts



### THIS IS THE HOERNER SPECIALIST FOR PACKAGING BUSTABLE THINGS

Getting fragile items like Christmas ornaments or TV tubes from plant to point of purchase without a hint of damage is a specialty with Hoerner Packaging Engineers. They use corrugated to cushion the item inside. And to shield the item from the outside. If shipping damage is a problem with your fragile product, don't let it break you. Call or write the Hoerner office or plant nearest you.



## HOERNER BOXES, INC.

Corrugated Specialists for Mid-America

GENERAL OFFICES: 600 Morgan St., Keokuk, Iowa • PLANTS: Keokuk, Des Moines and Ottumwa, Iowa; Sand Springs, Okla.; Minneapolis, Minnesota; Fort Worth, Texas; Sioux Falls, S. Dak.; Fort Smith and Little Rock, Ark.; Affiliate: Cajas y Empaques Impermeables, S. A., Mexico City D. F., Mexico

### Plants & People [Cont'd]

facility will supply scrolled sheets for fabrication of ends for metal containers to be made at seven Canco plants on the East Coast.

**Ball Bros. Co.**, Muncie, Ind., has begun work on a new glass plant near Asheville, N. C.

**J. C. Baxter Co.**, Minerva, O., is expanding manufacturing facilities at its Minerva plant. The company makes spiral-wound paper tubes and cores. **Mildred B. Baxter** has been appointed director of marketing for the company.

**Colorite Plastics** of New Jersey, Paterson, N. J., is increasing production and research facilities as the first phase of a long-range expansion program.

A 32,000-sq.-ft. addition to its Brookside facilities is now being constructed by **The Dobeckmun Co.**, Cleveland, a div. of **The Dow Co.** The new building will house a finishing dept. for slitting, wrapping, packing and storage of packaging roll products.

**The Mead Corp.**, Dayton, O., will double the size of its Corporation Research Center at Chillicothe, O.

**Plastic Corp.** of Arizona recently opened a plant at 1248 S. 26th Place, Phoenix. The company will make polyethylene and cellophane bags and will offer consultation service for transparent flexible film packaging. **James A. Decker** is pres., **William E. Demand** is v.p. in charge of sales and advtg., and **Dana E. Myers** is plant manager.

**S & S Corrugated Paper Machinery Co.**, Brooklyn, has contracted with **Fabbrica Macchine Industriali**, Naples, Italy, for the manufacture of major container-making and die-cutting equipment not constructed at S & S's **Conrad-Stork N. V.** facilities in Haarlem, The Netherlands.

**Sun Chemical Corp.**, New York, has established a new printing-ink plant in Caracas, Venezuela. **Bernard Kaufman** has been appointed gen. manager.

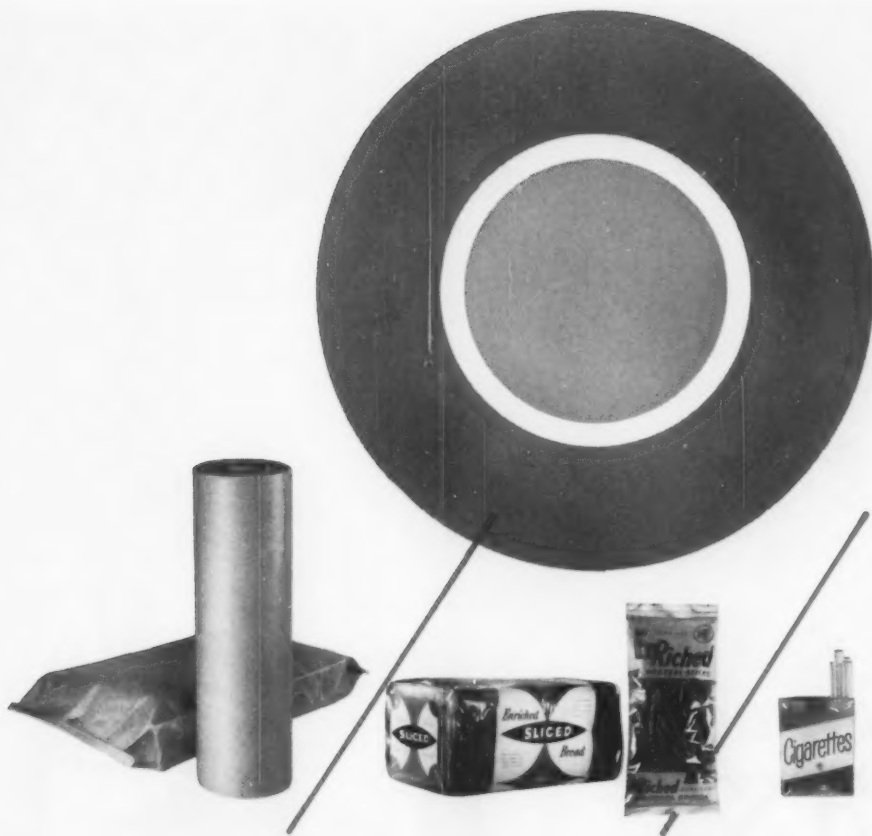
### Promotions

**Jack L. Hendrickson**: to product sales mgr., food containers and home-canning jars, **Hazel-Atlas Glass Div.**, **Continental Can Co.**, New York. He succeeds **J. C. Neuhart**, retired. **Harold J. Stulenburger**: to asst. to gen. mgr. of sales, **Hazel-Atlas**.

**Ralph H. Colegrove**: to mgr., New York sales, **The Champion Paper & Fibre Co.**, New York. He succeeds **George D. Kennedy**, now sales mgr. for printing papers.

**Donald J. Lundstrom**: to asst. to the sales mgr., **Container Machinery Div.**, **E. W. Bliss Co.**, Canton, O.

**Charles E. Brookes**: to mgr. of mktg., organic chemicals div., **Dewey & Almy Chemical Div.**, **W. R. Grace & Co.**



### ***A Packaging Decision Can Change the Course of a Business***

*When your sales curve has reached a plateau, a new package may be just the added force your business needs.*

*If you're thinking of a new package, think first of Olin Mathieson's Packaging Division. We can provide you with creative ideas in packages for shipping or packages for selling... ideas designed to cut costs and increase profits.*

*Our Packaging Division manufactures Olin Cellophane and Olin Polyethylene, Frostkraft paper and paperboard, corrugated shipping containers, multi-wall sacks, grocery bags and folding cartons. Also Ecusta cigarette paper, light-weight printing and specialty papers. Call in an Olin Mathieson representative today.*

OLIN MATHIESON  PACKAGING DIVISION



Olin Cellophane, N. Y. 21, N. Y.



Frostkraft Products, West Monroe, La.



Ecusta Papers, Pisgah Forest, N. C.



# hi-fax<sup>®</sup>

## launches a new trend in packaging

Possibly the biggest news in packaging this year is the switch-over by major light-duty liquid detergent producers to plastic containers. After three years of development work on the new containers, Hi-fax, Hercules high-density polyethylene, was the first material approved for the new bottles.

**WHY PLASTIC CONTAINERS?**—Market-wise packagers realize the consumer appeal of plastic. These containers can be molded to attractive, eye-appealing shapes . . . they have a luxurious "feel" . . . they can be appealingly colored . . . they are unbreakable, and cannot scratch sinks or counters.

From a production standpoint, Hi-fax is economically competitive with metal and offers such functional advantages as lightweight, molded-in color, resistance to denting. Hi-fax bottles will not leak and are rustproof.

Leading the way has become a standard pattern for Hi-fax and on the horizon is the conversion of heavy-duty detergents and other liquid household chemicals to modern plastic containers. Whether you design, package or sell, you'll want to know about the properties and advantages of Hi-fax. Write for further technical information to:

**HERCULES POWDER COMPANY**

INCORPORATED

CP59-22

900 Market Street, Wilmington 99, Delaware



*Trend containers are blow-molded by:  
IMCO Container Corporation, Plax Corporation  
and Royal Manufacturing Company.*



Cambridge, Mass. George B. Kafka: to Midwest sales mgr., closure-sealing compounds, Dewey & Almy.

Gene M. Brown: to p.r. mgr., Olin Mathieson Chemical Corp., New York. He was formerly in charge of press relations.

Gerald R. Grant: to Chicago district mgr., Container Div., Container Corp. of America, Chicago.

James B. McNamee: to mgr., New York branch, Sinclair & Valentine Co., New York. Seymour Warshaw will continue as New York branch sales mgr. of the ink-manufacturing company.

Robert W. Coughlin: to asst. sales mgr., Pneumatic Scale Corp., Ltd., Quincy, Mass. Pneumatic makes packaging and bottling machinery.

Edwin A. Guerrero: to Ohio Valley sales mgr., folding cartons, Container Corp. of America, Chicago.

L. A. Babbitt: to mgr., economic and market analysis, Eastman Chemical Products, Inc., Kingsport, Tenn., sub. Eastman Kodak Co.

Earle L. Taylor: to plant mgr., Aerosol Techniques, Inc., Bridgeport, Conn.

George W. Stevens: to director, Crescent Ink & Color Co., Philadelphia. He remains a v.p. and secy. of the firm.

#### Appointments

W. O. Van Doren: from Arkell Safety Bag Co. to product sales mgr., dairy and meat products, Chippewa Plastics Co., Chippewa Falls, Wis.

E. Burley Edwards: from container div., Jones & Laughlin Steel Corp., to New York sales mgr., industrial products dept., Hedwin Corp., Baltimore, Md. Hedwin makes a variety of shipping containers.

#### Obituaries

Thomas G. Rowden, until recently mgr. of the London office of MODERN PACKAGING and Modern Plastics, died Oct. 9 in a London hospital, after a lengthy illness. Representing the two Breskin publications since 1953, Mr. Rowden was widely known in packaging and plastics circles in Great Britain and on the Continent. He leaves his wife and a son.

John S. Keir, former board chairman and pres. of Dennison Mfg. Co., Framingham, Mass., died September 21. He was 67 years old. Mr. Keir joined the organization in 1924 and was elected pres. in 1952. He became board chairman in 1957 and retired from active service early this year.

George L. Kaplan, pres. of Kaplan Paper Box Co., St. Paul, is dead at 77. He founded the company in 1907. In that same year he founded another firm, Minnesota Envelope Co.

## It can't be just "adequate"...



## PACKAGE MARKING either makes money or wastes it

*Readable, attractive marking made by Markem machines on your boxes or labels helps them from the moment they're marked to the time they're used — and can even help future sales as well. Good marking speeds handling . . . reduces waste and packing errors . . . allows quick selection by customers . . . simplifies and encourages reordering . . . carries the "quality" message of modern package design.*

*In contrast — hard-to-read, uneven, "home-made" marking is a hindrance to your package or product from beginning to end — and can actually waste thousands of dollars a year.*

And a Markem marking method makes important "in-plant" savings as well. The right Markem machine, type and specialty ink working in your plant marks the *right* quantities at the right time — with savings in inventory, labor and delivery time . . . eliminates waste from obsolescence . . . handles "short runs" rapidly and economically . . . provides flexibility that allows *one machine* to do a variety of marking jobs.

Call your local Markem man or write directly, enclosing samples and requirements. Markem Machine Co., Keene 1, N. H.

# MARKEM

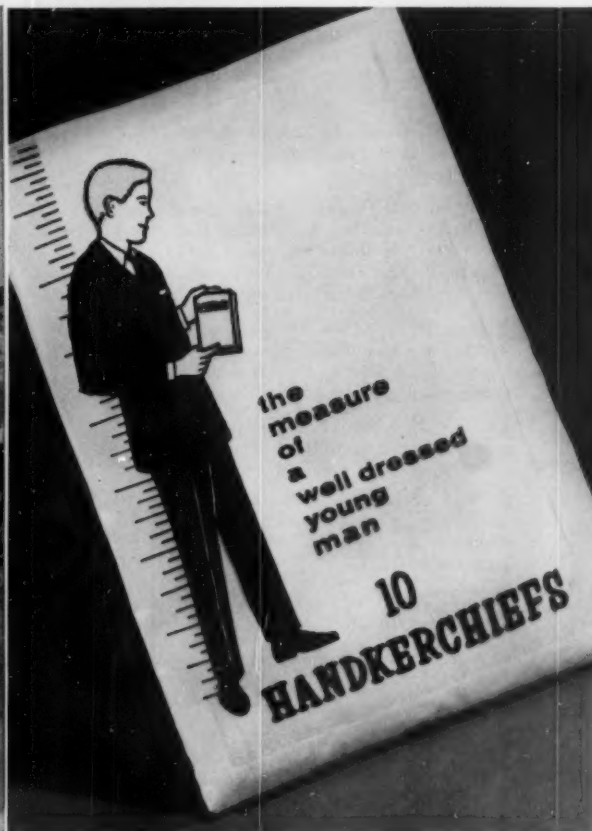
*everything industry needs . . . for profitable marking . . . since 1911*



Cushman Baking Company, Portland, Maine, wraps both its New England and Home Type bread in printed polyethylene film; reports increase in sales, decrease in stales! New polyethylene wrapper keeps bread feeling fresher longer, is easier for housewife to open and close.

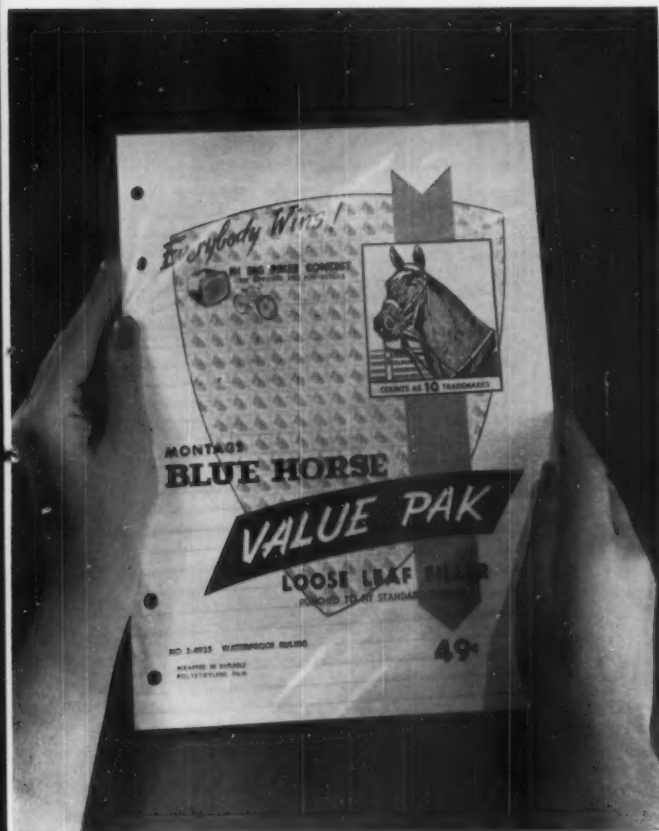


I. C. Herman & Co., New York City, turned to polyethylene film for automatic overwrapping trays of handkerchiefs. The new package has "increased sales since it combines tray-pak gift appeal with the transparency and durability of polyethylene film."



**NO TWO SHAPES ALIKE...**  
**Yet every product is packaged**

Montag Brothers, Atlanta, Georgia, wrapped "Blue Horse" Notebook Paper in polyethylene film and increased sales almost 50%! Clear, tear-resistant polyethylene film protects paper from damage, extends shelf life, has had "phenomenal customer acceptance."



Hottest new sales builder in food packaging is IQF—Individually Quick Frozen Food packaged in polyethylene. Flav-R-Pac brand corn, peas, beans, are individually frozen and packaged in large 2-lb. polyethylene bags, colorfully printed. Housewife pours out amount she wants; puts remainder back in freezer.



## automatically in polyethylene!

### How Does Your Product Shape Up When It Comes to Packaging?

Irregular shapes, soft goods, flexible or rigid products . . . all can be automatically packaged in sparkling clear polyethylene film. And new high-speed machine developments make it even more economically attractive.

### Protection and Sales Appeal... and the Lowest Price for Any Transparent Film

Polyethylene film advantages only begin in its low cost! With this economy comes protection because tough, flexible polyethylene is tear-resistant . . . stands up to counter display . . . protects while it shows your merchandise off to its best advantage.

### Ask the Experts

Leading automatic packaging machine manufacturers will be glad to bring you up to date on their new equipment using film made of BAKELITE Polyethylene. Or contact Dept. LD-53M Union Carbide Plastics Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, New York, for the special packaging booklet that gives you facts and figures on this low cost film. In Canada, address Carbide Chemicals Company, Division of Union Carbide Canada Limited, Toronto 7.

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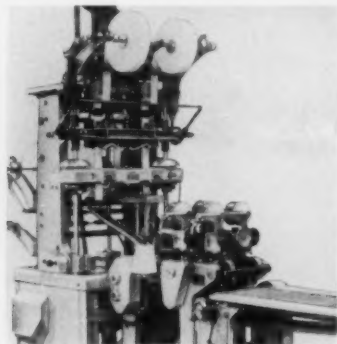
# Equipment & Materials

[Continued from page 58]

ping containers, without regard to size. Its operation, says the supplier, completely eliminates (a) the need for multiple installations of case-sealing machines and compression units, (b) the need for storage conveyors and such intricate controls as powered sealing-machine-adjusting devices, and (c) the need for manual case-sealing-machine adjustments. The supplier also points out that the new machine, which accepts vari-sized cases at random without interruption, speeds up production by eliminating bottlenecks in case-packaging lines. *J. L. Ferguson Co., Joliet, Ill.*

## Machine handles all tea-bag sizes

FMC has developed a new machine, the Model BS Stokes-wrap, which can accommodate all tea-bag sizes from 18 grains to 2 oz. An added advantage of the new unit, says the supplier, is that cup sizes are automatically tagged during the packaging operation. The automatic machine produces 60 to 140 tea bags per minute. Bags are formed from rolls of tea-bag paper, then are volumetrically filled and heat sealed.



Printed tags for cup sizes are fed from reels and cut by a tagger attachment. Simultaneously, string is drawn from two separate spools, cut to length, and stapled to the bag and tag. Completed bags are delivered in two rows (counted and stacked) on the conveyor. Only one attendant is needed for cartoning and inspection, says the supplier. *Food Machinery & Chemical Corp., FMC Packaging Machinery Div., 4900 Summerdale Ave., Philadelphia 24.*

## Polyethylene paper-coating resins

Available from U. S. Industrial Chemicals are three new polyethylene paper-coating resins. They are claimed to display marked improvement in adhesion and draw-down characteristics as well as reduction in neck-in, smoking, coating temperatures and polymer build-up at the die. The resins are designated Petrothene 200-2, 201-2 and 203-2. All have a density of 0.915 and their respective melt indices are 3.0, 5.0 and 8.0. According to the supplier, considerable success has been achieved in extruding the polyethylene resins onto a variety of substrates, including paper, paperboard, foil and cellophane. *U. S. Industrial Chemicals Co., Div. National Distillers & Chemical Corp., 99 Park Ave., New York 16.*

## Corrugated-case opener

A machine that automatically opens corrugated cases at reported rates of up to 30 per minute is available from Emhart. Called Auto-Box, the lightweight (1,200 lbs.) new unit is mounted on casters, so it can be moved to any desired location. The machine takes each case from a stack of flats, opens it, tucks in the end and side flaps on one end of the case, then discharges the case. Side flaps are folded back deeply, a feature which creases the score line and causes the case to ride flat on its bottom edges to the conveyor, says the supplier. The unit is available in adjustable and

non-adjustable models. The former will handle cases ranging from 20 to 30 in. long and 12 to 24 in. wide. *Emhart Mfg. Co., Portland Div., Portland, Conn.*

## Device solves wall-measurement problem

Testing Machines offers a new apparatus for measuring the wall thickness of hollow, narrow-necked containers. Key to



the instrument's performance is that one of its caliper legs can be telescoped, permitting it to be introduced through narrow bottle necks and similar small openings. Wall thickness is indicated on a direct-reading gauge mounted on the instrument.

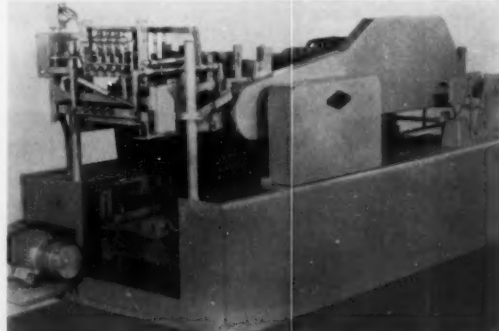
The device can make measurements to a distance of 12 3/4 in. from the mouth of hollow containers made of glass, steel or other materials. Its telescoping leg can be introduced into openings as small as 1/2 inch. *Testing Machines, Inc., Mineola, N.Y.*

## Label imprinter reduces inventory needs

Overprinting product, size and other essential data on partially pre-printed labels is the function of Markem's Model 88A label imprinter. The roll of partially pre-printed labels is fed into the machine by a speed-regulating pin-feed mechanism that is designed to maintain accurate imprint registration. The unit's printing head can be fitted with steel-backed rubber plates containing the desired imprint, or with quick-change plates slotted to accept variable information. A major advantage of the machine, the supplier points out, is that it eliminates the need to stockpile labels for a variety of products. Production speed is 100 to 125 labels per minute. Maximum label size is 5 1/2 by 4 in. *Markem Machine Co., Keene, N.H.*

## Bottle-and can-handling equipment

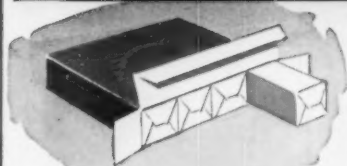
Atkron is introducing three new machines for use by packagers of bottled and canned products. They are: a continuous-motion case packer, an automatic can sorter and an automatic four-flap case opener. The new case packer



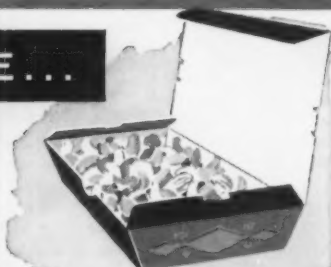
(shown) packs bottles, cans or jars (up to 32-oz. size) in shipping containers at speeds of up to 30 cases per minute, says the company. A system of interchangeable packing heads permits packing different sizes and types of containers on the same machine. Continuously operating con-



## IF YOU PACKAGE...



**BUTTER, OLEO**



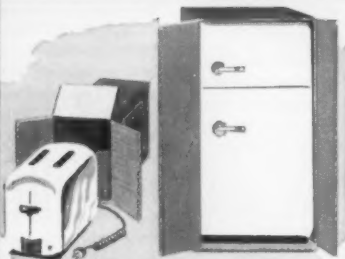
**NUT MEATS**



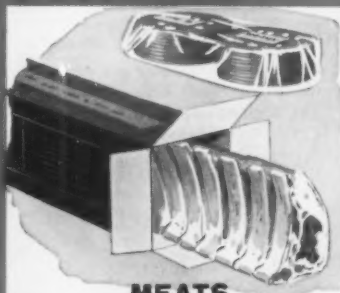
**MILK, JUICE**



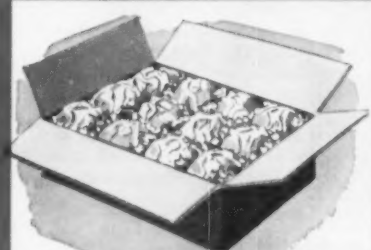
**FURNITURE**



**APPLIANCES**



**MEATS**



**FRESH VEGETABLES**



**FLOWERS**



**PASTRY**

# AC<sup>®</sup> Polyethylene

## CARTON COATINGS OFFER 7-WAY PROTECTION

- No more fiber scratch
- Improved scuff resistance
- Higher chemical resistance
- High grease resistance
- Better gloss
- Moisture resistance
- Reduced rub-off



If grease, moisture or fine finishes present packaging problems for your product, here's how you can pack and ship them safely *without recourse to costly carton liners*:

Incorporate A-C Polyethylene into your present carton-coating operation! It will eliminate fiber scratch and scuffing, give your cartons adequate resistance to grease, water and chemicals.

A-C Polyethylene can save you money, too. When you add it to ordinary wax coatings, *penetration is drastically reduced*, resulting in less wax consumption. For example, with straight paraffin, the normal coating weight is 7-8 lbs./1000 sq. ft. With addition of A-C Polyethylene, *it is frequently reduced to 3-5 lbs./1000 sq. ft. with superior protection!*

**Write for literature, free samples.** Free samples and technical data are now ready for your evaluation. Just write us at the address below. Or ask your local Semet-Solvay representative for a demonstration in your own plant. He can show you, right on your own equipment, how A-C Polyethylene can improve your cartons, save you money at the same time! *Contact us for the names of processors in your area who make up blends of A-C Polyethylene and wax.*

## SEMET-SOLVAY PETROCHEMICAL DIVISION

Dept. 556-L, 40 Rector Street, New York 6, N. Y.

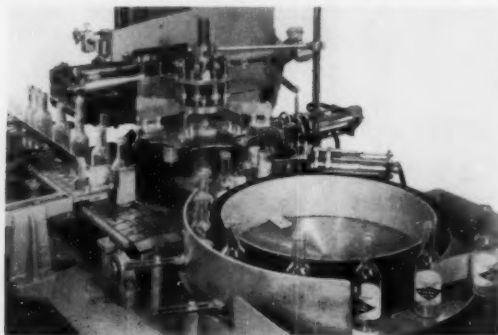
National Distribution • Warehousing in Principal Cities

## Equipment & Materials [Continued]

veyors carry the shipping cartons and the product containers through the machine. If there is an interruption in the supply of cases or containers, the unit's continuous motion pauses automatically until the shortage is corrected. The new automatic can sorter (Model CUS 6.5d.) is designed for high-speed unscrambling of cans up to 1-qt. size. A magnetic pulley turns the cans so open ends are all in the same position, ready for the filling cycle. The unit can handle up to 1,000 six-ounce cans per minute, says the company. The firm's third new machine—the Model CFO-2 four-flap case opener—is designed to handle cases of any length, ranging from 9 in. wide and 4 in. high to 14 in. wide and 11½ in. high. *Atkron, Inc., Cuyahoga Falls, O.*

### New label-applying machine

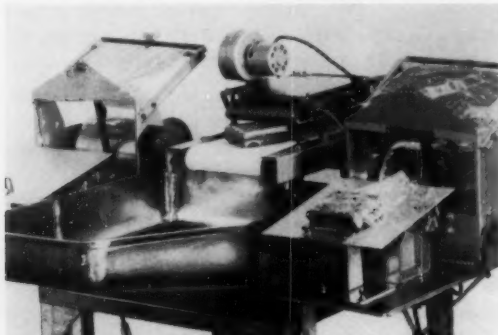
Biner-Ellison is offering a new model Labelmatic machine which can apply either spot labels or wrap-around labels. The unit will apply wrap-around labels to cylindrical con-



tainers ranging from small vials to bottles 3 in. in diameter. Maximum label length of 9 in. can be accommodated. Spot labels also can be applied to a wide range of container sizes, up to one gallon. Labeling speeds (both spot and wrap-around) of up to 60 per minute can be achieved, says the supplier. *Biner-Ellison Machinery Co., 1101 N. Main St., Los Angeles 12.*

### New wrap sealer and shrink tunnel

Two new frankfurter-packaging units are offered by Cryovac. They are the Model 6363 Exact Weight Wrap Sealer and the Model 6544 Hot Water Tunnel and Exit Conveyor. Both new units can be adapted to existing packaging operations, says the supplier. They are designed for use with the



company's new L-500 shrinking film. The wrap sealer may be used with or without exact-weight scales to wrap and seal franks at a reported rate of two to four packages per minute per operator. The correct length of printed or unprinted film is dispensed from a roll and cut off, after which the franks are positioned and wrapped and the package placed seal side up on the conveyor. Heat sealing is done automatically as the package passes under an air-cooled sealer-cooler attachment. The new shrink tunnel accommodates one-pound, double-layer frank packages at 20

per minute. Shrink is neat and tight, producing a finished package with good visibility, sheen and resistance to handling, says the supplier. *The Cryovac Co., Div. W. R. Grace & Co., Cambridge 40, Mass.*

### Fibre-glass-reinforced polyethylene film

Fibre-glass-reinforced polyethylene film has been introduced by a British firm, Chemicals Trading Co. Marketed under the trade name FRF, it is claimed to eliminate stretching, bagging and billowing of the film, and to give it a stiffness and flexibility that make for easier handling. Even though the fibre-glass strands are interwoven in the film, it retains its inherent characteristics of moisture resistance and good heat-sealability, says the supplier. The reinforced film is suggested for use in the bulk packaging of chemicals or food products, as illustrated in the accompanying photograph. Bags and other items fabricated from the material are reported to have improved strength and tear-resistance, thus providing longer package life and increased re-use value. *Chemicals Trading Co., Ltd., Cree House, 18-20 Creechurch Lane, London E.C. 3, England.*



### Light-protective bottle glass

Owens-Illinois has developed an emerald-green bottle glass which is designed to block undesirable light transmission. It is called Ultrasorb. According to the supplier, its new green glass reduces the transmission of violet and ultraviolet rays by more than 80%, while maintaining a color well within the standards of emerald green. Initial use of the colored glass will be in the beverage industry, but it is also suggested for use by food and drug packagers. *Owens-Illinois Glass Co., Toledo, O.*

### Automatic pouch-packaging machine

Wide size range and high-speed operation are the principal features cited by Package Machinery Co. for the new Transwrap Model S-750 automatic bag-forming, filling and sealing machine. It is specifically geared to the pouch packaging of frozen vegetables and candy products. The unit forms bags or pouches from 3 to 15 in. long and from 2 to 8½ in. wide, at a maximum rate of 75 per minute. A simple screw adjustment determines package length, and a hand wheel regulates production speed. Bag-size change-over is reported to take less than 15 minutes. Centralized electrical controls simplify operation of the new machine. *Package Machinery Co., East Longmeadow, Mass.*

### Casting-roll unit for plastic sheet, film

A new casting-roll unit for plastic sheet and film is claimed to eliminate such problems as poor clarity, dullness, wrinkling, puckering, gauge variation and poor temperature regulation. The machine is a product of Modern Plastic Machinery. It is automatically compensated for line speed and is instrumented with tachometers to show line, wind-up and empty-core speeds. Chrome-plated double-shell casting rolls are available in diameters of 12 in., 14 in. and larger. *Modern Plastic Machinery Corp., Clifton, N.J.*

### Economy in cartons and envelopes

Protection at low cost is an advantage cited by Calumet Carton for a line of folding cartons and mailing envelopes. The company reports that the cartons are manufactured of kraft without the use of a steel-rule die, and take only minutes to set up. The two styles of carton offered by the company have double side and end walls, for extra product protection. The envelopes, made of 0.040 virgin kraft box-board, need no stiffeners to protect flat contents from damage in the mails. *Calumet Carton Co., Homewood, Ill.*

# AVERY

birthplace of the really new ideas

in pressure-sensitive labeling

To meet a definite need Avery originated pressure-sensitive labeling years ago—and since then has maintained its leadership with many notable new ideas.

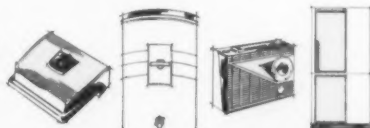
Avery's persistent research in constantly seeking new frontiers for pressure-sensitive products has fortunately come up with a number of "firsts" . . . specific ways in which industry, commerce and individuals can benefit from lower costs, time saved and greater convenience.

Avery's list of "firsts" in new ideas for pressure-sensitive labeling reads like a declaration of independence from old-fashioned, messy forms of labeling. Avery's removable Kum-Kleen labels and permanent Perma-Grip labels—the distinctive File Folder labels, Correction Tape, Airmail and Price-marking labels—the amazing Tabulabels and the intriguing new Photo-mounts—are but a few of the Avery Label ideas that have found firm favor with retailers, business and consumers.

An Avery liquid spray adhesive, a line of labeling machinery—and Avery's Decorative Metallics are some of the "newest" of the new ideas.

THAT'S AVERY—the birthplace of the really new ideas in pressure-sensitive labeling. Worlds ahead!

Durable and attractive, Avery pressure-sensitive Metallics are the economical answer to permanent decorative trim, nameplates and panels. Write for Avery's general catalog and new brochure on Avery Metallics NOW!



**AVERY LABEL COMPANY** a division of Avery Adhesive Products Inc.  
1616 South California Avenue, Monrovia, California

Here are but a few of the thousands of ways in which manufacturers are profitably using AVERY LABELS today



Samples of Avery Adhesive labels—removable KUM-KLEEN and permanent PERMA-GRIP—will tell you more than a thousand words. May we send yours?

**AVERY LABEL COMPANY DIV. 127**

117 Liberty St., N. York 6 • 608 So. Dearborn St., Chicago 5 • 1616 So. Calif. St., Monrovia, Calif.

☐ Please send free ☐ Include KUM-KLEEN and the PERMA-GRIP brochure. ☐ Include KUM-KLEEN and PERMA-GRIP sample labels.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



## PACKAGE CHEMISTRY IS "SHOW BUSINESS"

In spite of the most complete and careful planning, design testing, and research that precede the launching of a new package, its actual debut in the competitive market place is as exciting and unpredictable as a Broadway opening. Will you have a hit on

your hands? To help your package score with the critics and the public, packaging chemistry from Dow complements the skills of the package designer and engineer with the excitement of new materials, with imaginative ways to use older ones . . .

# TRYCITE . . . NEW LOW-COST FILM STARS IN GIFT WRAP ROLE

In the consumer's eye at least, gift wrap is the most glamorous of packaging. And when she shops for gift wrap materials she looks for a well-packaged product that suggests the wrapping magic it makes possible.

From the gift wrap manufacturer's point of view, the No. 1 requirement is quality packaging that will not add substantially to the cost of his line. The overwrap must not only merchandise the product winningly on shelf or counter—it must protect it sturdily during shipping, storage, and during sustained shelf-life.

A new film product of Dow packaging chemistry—TRYCITE®—has solved the problem for manufacturers of quality gift wrap. The new film represents

an important breakthrough as the result of 15 years of work by Dow chemists to reproduce the economy, clarity, and dimensional stability of polystyrene in film form.

Here's why Trycite is ideal for gift wrap overwrap and many similar applications. *Exceptional clarity* provides a perfect window that lets product quality come through clearly. *Surprisingly low cost*, less per square foot than any comparable packaging film. *Keeps its shape* indefinitely. Trycite is "bilaterally oriented"—won't curl, warp or wrinkle. A flat package stays flat. And because Trycite doesn't absorb water vapor, it won't swell, stretch, shrink or dry out. *Lasting shelf-life* of Trycite is outstanding.

Won't dry out or discolor. This is especially important for protection of products that are handled at the point of sale.

One of the first applications for Trycite was in window envelopes. It was an easy step to window boxes, overwraps, pouches and bags of all kinds that need clarity for effective selling. Important uses include window-box cartons for foods where its breathing ability allows air, water vapor, gases to pass through and leave the package unclouded; and as bags and pouches for soft goods such as handkerchiefs and hosiery. Every day this exciting new film material is opening new windows on sales for alert packagers. Have you looked into TRYCITE?







## SARAN RESINS:

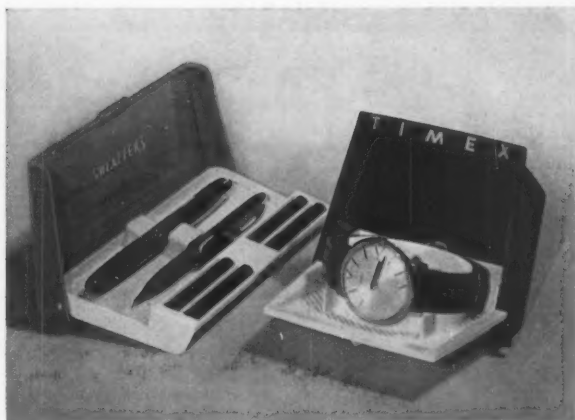
### *inside protection job*

Sometimes the "show window" idea in packaging requires a coating to make it work. Example: the striking looking new tube that shows and sells Prell Concentrate Shampoo.

The manufacturer's idea was to put shampoo in a transparent polyethylene tube, so attractive that it would invite the shopper, as well as the person in the shower, to pick it up. But first the Concentrate shampoo had to be effectively locked in, the tube made impermeable so that the product would not affect the outer package or be

affected from the outside. Dow's answer: a thin coating of Saran resins inside the tube which allowed the package designer to use the ideal flexibility and good transparency of polyethylene, with the tailor-made protection of Saran resins added.

This kind of working partnership between films and coatings is one that Dow is able to explore to the fullest for the product in search of a new package. Flavor and freshness can be sealed in, impermeability to many liquids and vapors added to films and molded containers by a Saran resin coating. Tailoring like this can make the package fit your product to a Tee.



## STYRON:

### *for "jewel-case" atmosphere*

In setting the stage for sales of relatively high-ticket items, Styron® from Dow stars. Gift items especially can be dramatically presented by rigid container packaging using Styron. Recent examples of this kind of good showmanship: a plastic case for a pen-pencil set, another for a wristwatch.

The black and white Styron plastic case smartly displays the watch with a suggestion of elegance and quality; also serves to store the watch when it is not being worn. A two-tone Styron plastic case makes an ensemble sales unit of a 6-piece pen-pencil-refill set; and can serve as a desk set.

Packaging possibilities with Styron are broad and versatile. Minute details of design can be faithfully reproduced. Color styling has a wide palette, including crystal clarity, opacity, and textures. Special formulations can emphasize impact strength, heat resistance, dimensional stability. Why not ask your package designer to dream a bit, with Styron in mind?

## DOW MATERIALS MAKE THE PACKAGE . . .

Materials are the basic ingredients of every good package . . . and can make or break the greatest creative design that ever came down the pike. And so we suggest that you invite packaging chemistry into your strategy sessions on your new package. Dow experience in materials, marketing, and merchandising is available. THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1525CR12.

### DOW PLASTICS BASIC TO PACKAGING

Molding materials • Films • Film resins  
Sheeting • Coatings • Expandable beads

### THE DOW CHEMICAL COMPANY

Midland, Michigan



## THREE MORE GOOD PACKAGE "FOR INSTANCES" . . .

**Polyethylene coated freezer wrap:** To paper used for frozen foods, polyethylene coating adds extra strength, barrier properties, flexibility—even at freezer temperatures.



**Chub package of Saran Wrap:** Saran Wrap® identifies good packaging in the cheese field. Cheese chubs feel fresh, stay fresh, because of the excellent moisture and vapor barrier.

\*TRADEMARK



**Ice bucket in new texture "Frost Wood":** Injection molded from Pelsapan®. Golfball maker combines it with his product as a gift-pack merchandising offer.



# For Your Information

New pres. of the Packaging Machinery Mfrs. Institute is **Kenneth B. Hollidge**



Hollidge

of Arthur Colton Co. He was elected to the post during PMMI's 27th annual meeting in Manchester, Vt. Elected first, second and third v.p., respectively, were: W. R. Huguenin, FMC Packaging Machinery Div.; Harold Mosedale, Jr., Packaging Machinery Co., and William W. Anthony, Jr., Crompton & Knowles. New three-year-term directors are: Arthur E. Motch, R. A. Jones & Co.; J. H. Brezinski, Roto Bag Machinery Corp., and Gene Lakso, The Lakso Co. Mr. Anthony also will serve as chairman for the next PMMI Show, which will be held in Detroit, Oct. 31-Nov. 3, 1961.

Spurred by wide interest in the safety of packaging materials which has resulted from the new Food Additives Amendment to the Food & Drug Act, the Packaging Institute has formed an industry-wide Regulatory Problems Committee. Its chairman is Roger V. Wilson of Continental Can. PI reports that the proceedings of three panel conferences on safety of packaging materials (in which users and suppliers met with FDA representatives) are being prepared for publication and will be available shortly.

Now available on request to PI are copies of an address given before the Food & Drug Div. of the American Bar Assn. by Charles W. Kaufman, pres. of PI and director of research for National Dairy Products Corp. The title of the address is "Food Packaging and the 1958 Food Additives Amendment." For copies, contact Packaging Institute, 342 Madison Ave., New York 17.

The first meeting of the Paper Industry Career Guidance Committee was held recently in New York. Acting chairman was William H. Chisholm of Oxford Paper Co., representing the American Paper & Pulp Assn. Purpose of the new committee is to attract and guide young people toward careers in the pulp and paper industry.

"Modern Packaging: Where It Is—Where It's Going" is the title of a new 15-minute, full-color audio-film about MODERN PACKAGING. The film describes a new concept in business-magazine publishing that offers advertisers authenticated coverage of dominant buying power in the packaging field, plus a readership-development program that assures close editorial attention. It also traces how, in less than four decades, packaging has become America's sixth largest manufacturing

function. The film strip is available for viewing through MODERN PACKAGING offices in New York, Chicago, Cleveland, Atlanta and Los Angeles.

The Label Mfrs. National Assn. has joined the Lithographers & Printers National Assn., following approval of the merger by the State of New York. Two representatives of the new Label Mfrs. Div. will serve on the board of LPNA. One label manufacturer will be on LPNA's executive committee.

Mason Turner of American Can Co. has been named asst. director, Containers & Packaging Div., Business & Defense Services Administration, U. S. Dept. of Commerce. He will be on loan from his company for a six-month tour of duty.

Clarence F. Smith of Inland Container Corp. was elected pres. of the Fibre Box



Smith

Assn. at its recent 20th annual meeting. New v.p. is Charles T. Ingram, Jr., of Carolina Container Co. Jerome H. Stone of Stone Container Corp. was named chairman of FBA's Western Div. New directors elected include: Richard N. Hoerner of Hoerner Boxes, Inc.; S. S. Davis of The Corrugated Container Co., and David R. Lepper of Stone.

Speaking at the meeting, Peter W. Hoguet, pres. of the Econometric Institute, predicted that the demand for corrugated shipping containers will double in the next 15 years.

The Cellular Plastics Div. of The Society of the Plastics Industry has formed a Public Relations Committee. The committee's aim is to promote greater public acceptance and understanding of foamed plastics, which are finding many applications in packaging today. Chairman of the new committee is James P. Foley of Allied Chemical.

"Today's Challenge in Packaging and Handling" will be the theme of the Fifth Joint Military-Industry Packaging & Materials Handling Symposium to be held at the Sheraton Park Hotel in Washington, D. C., Feb. 8-10, 1960. Representatives of industry and government will exchange ideas and discuss solutions to problems.

A two-day symposium on industrial packaging was held Oct. 29-30 at the University of Wisconsin, Madison. Protective flexible-packaging and cushioning materials were the chief topics covered.

First issue of a newsletter covering publicity and promotional activities was re-

cently released to members by the Aerosol Div. of the Chemical Specialties Mfrs. Assn. Designed to keep members up-to-date on the progress of a publicity program being conducted by the Aerosol Publicity Committee, *Pressure Points of Interest* will be published quarterly. Copies may be obtained from CSMA, Aerosol Div., 50 E. 41 St., New York 17.

Operations and services of Inland Container Corp., Indianapolis 6, Ind., manufacturer of corrugated containers, are detailed in a 32-page, full-color illustrated brochure, "Inland Reports Progress Through Leadership." Copies are available upon request to the company.

More than 800 members of the pulp and paper industries met at the Penn-Sheraton Hotel in Pittsburgh, Oct. 12-15, for the 14th annual Engineering Conference sponsored by the Engineering Div. of the Technical Assn. of the Pulp & Paper Industry. J. R. Curtis of Scott Paper Co. was chairman of the meeting, which featured technical papers and panel discussions.

A new book, *Food—America's Biggest Business*, by Pauline Arnold and Percival White, published by Holiday House, devotes an impressive chapter to the place of packaging in the complex economy of today's food production and distribution. "Addressed primarily to students—in and out of school," according to the foreword, the book is designated as a reference rather than a textbook, with special consideration of the vocational aspects of the food industry.

Upon completion of the 1959 Folding Carton Competition of the Folding Paper Box Assn. of America, the win-

## Events

- Dec. 1-4—Super Market Institute, mid-year conference, Americana Hotel, Bal Harbour, Fla.
- Dec. 7-9—Chemical Specialties Mfrs. Assn., 46th annual meeting, Mayflower Hotel, Washington, D. C.
- Jan. 5-10—American Rack Merchandisers Institute, ninth annual winter convention, Sheraton Hotel, Chicago.
- Jan. 12-15—Society of Plastics Engineers, 16th annual technical conference, Conrad Hilton Hotel, Chicago.
- Jan. 17-20—National Canners Assn. and Canning Machinery & Supplies Assn., 53rd annual convention and show, Americana Hotel, Bal Harbour, Fla.
- Jan. 26-27—Society of Vacuum Coaters, annual convention, Biltmore Hotel, New York.

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SUTHERLAND PRODUCES THE **PACKAGES**

These foil packages blaze with **SELL** . . . they protect the fine products you see on this page.

You get topflight foil packaging like this, *only* when an Alcoa packaging team pools its talents—Alcoa knows aluminum, Alcoa *is* aluminum . . . converter specialists, working closely with Alcoa, design and produce *THE* package for you.

There's no other teamwork like this in foil packaging . . . find out what it can do for your product . . .



Switch to packages that do everything for your product

# SHINE... SELL... PROTECT



Alcoa Wrap aluminum foil packaging is your answer. It gleams brilliantly, attracts more pick-me-up sales . . . it seals airtight foil-to-foil, or combines with laminants to assure double and triple product protection.

*No wonder  
so many fine products  
now carry this label—*



## **Exactly what does this label mean?**

It means—Alcoa, with the greatest fund of aluminum knowledge in the world . . . Alcoa, with the only full-scale packaging laboratory in the country, where we can test ideas, check costs, answer all problems from design to package performance . . . Alcoa teamed with their converter specialists to provide so much more

than any single company can—top facilities, top service, top know-how, all along the line.

## **Does your packaging need improving?**

Whatever your plans or problems, we're all set to tackle them. For complete information call your Alcoa salesman, or write: Aluminum Company of America, 1655-M Alcoa Building, Pittsburgh 19, Pennsylvania.



## F.Y.I. [Continued]

ning packages went on a tour of 20 major cities. During the two-month, coast-to-coast "cavalcade of cartons," almost 4,400 persons viewed the award-winning boxes. FPBAA is now organizing for the 1960 competition.

Karl Fink, head of Karl Fink & Associates, was re-elected pres. of the Packaging Designers Council at the group's recent annual meeting in New York. May Bender was elected secy. and Ernst Ehrman, treas. Named to the board of directors were Harry Lapow, Robert Neubauer and Robert Zeidman. A highlight of the meeting was a discussion of the recent Museum of Modern Art show, "The Package." (See "Packaging Comes to the Modern Museum," MODERN PACKAGING, Nov., 1959, p. 158.) Featured speakers were Mildred Constantine, the museum's asst. curator of architecture and design, and Walter Margulies, pres. of Lippincott & Margulies, design firm.

During the meeting, PDC also approved the establishment of a Midwest Chapter, under the chairmanship of Morton Goldsholl. Rene Burvant of Reinecke & Associates was named vice chairman; Robert Sidney Dickens, of Robert Sidney Dickens, Inc., was named secy.-treas.

An anthology of articles on the subject of packaging from point-of-sale and protection angles has been compiled by the Packaging Div. of American Management Assn. *Packaging For Sales & Shipment*, a 155-page, paper-bound book, is a four-part presentation of the salient points of packaging today, based on material originally presented at the 1959 National Packaging Conference in Chicago. It is available from AMA for \$3.75 (\$2.50 to members).

Plans to promote upgraded folding paper boxes in retail establishments and the development of improved statistical data on this form of packaging were drafted recently by the Folding Paper Box Assn. of America. The FPBAA Retail Box Committee will distribute to interested member companies quarterly releases of retail carton statistics compiled from reports of participating concerns and other pertinent information.

An Army report recently released to industry through the Office of Technical Services, U. S. Dept. of Commerce, is devoted to description of the development of foamed-in-place plastics which are said to provide better cushioning than foamed glass. A related Air Force paper listing numerous advantages in the use of high-density polyurethane self-expanding plastic for edge banding in pre-fabricated panels is also available. The 80-page *Development of Foamed-In-Place Plastic Energy Absorb-* [Continued on page 182]



Fink

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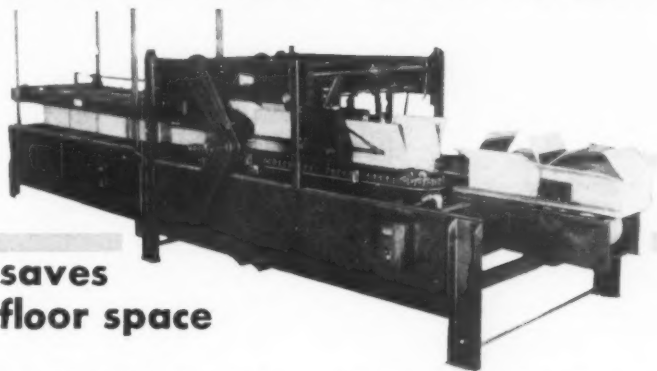
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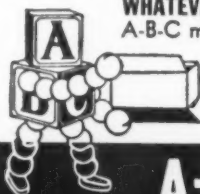
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**saves floor space**

This A-B-C Short Case Sealer really increases packaging efficiency. Glues, folds and seals either or both top and bottom flaps in one operation—automatically. Speeds up to 30 cases a minute. Finest welded construction. Ball bearing construction reduces maintenance. Guaranteed not to get out of "time".



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is the single goal of America's  
giant pharmaceutical industry.  
Its thousands of modern formulae  
demand the finest in protective  
packaging. Sheffield collapsible metal  
tubes are the choice of leading  
manufacturers; their quality, safety,  
utility are without equal.*

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DENTAL FLOSS**



Attractive, sales quickening, the clear blue plastic cover displays the product, protected from dust and dirt... announces when to buy more.



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**EASE  
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Custom molded undercut in plastic cover enables smooth, precise, 1-push snapping into metal base.

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**F.Y.I.** [Cont'd from page 179]

ing Materials (PB 151436), and the 16-page *High Density Foam-In-Place Edge Band For Prefabricated Panels* (PB 151628), are both available from OTS, U. S. Dept. of Commerce, Washington 25, D. C., for a charge of \$2 and 50 cents, respectively.

National Wooden Box Assn. is offering a new 12-page booklet titled "Bin Boxes." Illustrated with photographs, it deals with wooden unit-load containers. General types of bin boxes are described, and the economics of unit handling are discussed. Copies are available, without charge, from the National Wooden Box Assn., Barr Bldg., Washington 6, D.C.

Soabar Co., manufacturer of ticket and label-marking equipment and supplies, has prepared an eight-page booklet which is designed to interpret and clarify the Textile Fibre Products Identification Act. The brochure is titled, "What the New Textile Fibre Products Identification Act Means to You." It includes break-downs of such subjects as arrangement of required information, placement of information on labels, required terminology, products in packages and labeling of products containing two or more units. Copies of the brochure are available, without charge, from Soabar Co., 4219 VanKirk St., Philadelphia.

Standardization of design for pint and half-gallon rectangular ice cream cartons has been decided upon by the International Assn. of Ice Cream Mfrs., the Paraffined Carton Research Council and filling-machine manufacturers. Dimensions for pint containers are: height,  $2\frac{1}{32}$  in.; length,  $3\frac{7}{32}$  in., and width,  $3\frac{3}{32}$  in. Dimensions for the half-gallon size are: height,  $3\frac{1}{2}$  in.; length,  $6\frac{1}{4}$  in. and width,  $4\frac{1}{16}$  in. Henceforth, cartons from different suppliers can be put through automatic filling machines without adjusting equipment.

A preliminary technical data bulletin on polypropylene film is now available from AviSun Corp. Titled: "Some Pertinent Facts on Polypropylene Film," the bulletin points out that film made of polypropylene, the lightest known commercial plastic, possesses characteristics previously found only in more costly film. Additional data can be obtained from Dr. Edward T. Severs, AviSun Corp., Marcus Hook, Pa.

A 16-mm., sound-slide color film entitled "The Packaging Revolution" has been developed by Armstrong Cork Co.'s Packaging Materials Div. to show the startling changes in packaging that have come since the end of World War II. The 12-minute film is available through Armstrong's offices.

Misha Black of London, England, has been named pres. of the International Council of Societies of Industrial Designers. He was elected to succeed Peter Muller-Munk of the U. S.

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*"Mouth-watering, life-like full color!"*

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Cartons, Bags, Lithographed Displays

# U. S. Patents Digest

This digest includes each month the more important patents of interest to packagers. Copies of patents are available from the U. S. Patent Office, Washington, D. C., at 25 cents each in currency, money order or certified check. Postage stamps are not accepted. Edited by H. A. Levey.

**Bag and Bag-Handling Machine**, Norman S. Derrah and Helen J. Derrah, Lynn, Mass. U.S. 2,892,297, June 30. An apparatus for packaging materials within a tubular bag closed at one end and initially having the wall thereof rolled upon itself in a spiral forming an annular ring at the closed end.

**Apparatus for Packaging Commodities**, Paul B. Hultkrans, Milton E. Griem and Donald W. Davis (to Milprint, Inc., Milwaukee, a corporation of Delaware). U.S. 2,901,875, Sept. 1. In an apparatus for packaging commodity batches within flexible tubular containers, an annular series of plates forming a tapered conduit and means for mounting said plates in edge-overlapping relation to provide a conduit inlet of relatively fixed area for receiving a commodity to be packaged.

**Apparatus for Handling Flat End-Closure Blanks for Cartons**, Isaac L. Wilcox, Alfred A. Barnes, Clarence F. Patch and Robert Spurr (to Oswego Falls Corp., Fulton, N.Y., a corporation of New York). U.S. 2,901,950, Sept. 1. A conveyor movable over an endless path for advancing a procession of flat fibrous blanks comprising a series of flat blank carriers.

**Glue Head for Corrugated-Board Box-Folding Machine**, Francis Allen Connolly (to S & S Corrugated Paper Machinery Co., Brooklyn, a corporation of New York). U.S. 2,902,000, Sept. 1. A glue-supplying device for a carton-folding and gluing machine, comprising a roller unit, including a roller and a housing surrounding said roller wherein said roller is exposed for a predetermined portion of its periphery.

**Apparatus for Coating the Inside of Flanges of Can Bodies**, William I. Colvin (to National Can Corp., Chicago, a corporation of Delaware). U.S. 2,902,001, Sept. 1. Apparatus for applying a band of wax to the inside of flanges of flanged can bodies, comprising a perforated disk.

**Automatic Inspection Apparatus for Glass Containers and the Like**, George G. Miles and John McMackin (to Brockway Glass Co., Inc., Brockway, Pa.). U.S. 2,902,151, Sept. 1. Automatic inspection apparatus for glass articles such as bottles and jars, said apparatus comprising means for moving a series of articles successively to an inspection station.

**Heavy-Duty Container for Bulk Material with Protective Liner and Releasable Lock Cover**, Clifford D. Faltert (to Crown Zellerbach Corp., San Francisco, a corporation of Nevada). U.S. 2,902,202, Sept. 1. A heavy-duty, rigid, rectangular sift-proof container

with all interior surfaces free of exposed raw edges of paperboard; for packaging bulk materials in powder, granular, pellet and other flowable forms.

**Container**, Kenneth T. Buttery (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,902,203, Sept. 1. An erectable container unit of fibreboard, cut and scored to provide a rectangular bottom, first and second pairs of opposed walls hingedly connected to opposed edges of the bottom, corner members hingedly connected to the adjacent end edges of said first and second pairs of walls and diagonally scored.

**Apparatus for Assembling Packages**, Alten E. Whitecar (to Smith, Kline & French Laboratories, Philadelphia, a corporation of Pennsylvania). U.S. 2,902,806, Sept. 8. Apparatus for assembling packages, comprising means for inserting an article-containing insert into an enclosure, means for conveying a succession of enclosures to said inserting means, each of said inserts having portions removed therefrom to accommodate the article contained.

**Apparatus for Forming Seamless Packages for Fluids**, Helmuth Lang (to Farbwerke Hoechst A.G., Frankfurt, Germany). U.S. 2,902,808, Sept. 8. Apparatus for packaging fluid substances in individually formed containers of thermoplastic material, comprising a pair of hollow clamping members relatively movable toward and away from each other.

**Packaging Apparatus and Method**, Harvey R. Denton (to Diamond National Corp., Middletown, O., a corporation of Delaware). U.S. 2,902,907, Sept. 8. Apparatus for attaching a sheet of thin, flexible material to an open-top container, comprising means for continuously conveying said container along a horizontal path of travel.

**Container End Closure**, Harvey C. Hopkins (to King Container Corp., New York, a corporation of New Jersey). U.S. 2,903,173, Sept. 8. A paperboard container comprising a body having four sides forming a rectangular opening at one end of the body and a rectangular closure for the opening.

**Carton**, Glenn E. Stuble (to Diamond National Corp., Middletown, O., a corporation of Delaware). U.S. 2,903,177, Sept. 8. A carton comprising a body having a bottom with side and end panels extending therefrom, flap means on opposite ends of said side panels adhered to said end panels retaining all of said panels in upstanding relation.

**Collapsible-Carton Construction**, Raynor M. Holmes (to Bloomer Bros. Co., Newark, N.Y., a corporation of New

York). U.S. 2,903,180, Sept. 8. A collapsible carrier carton having a self-erecting bottom comprising a one-piece blank which is cut, scored and folded to form foldable connected front, rear, side and closure walls.

**High-Speed Carton-Closing and Sealing Apparatus**, Wickliffe Jones (to R. A. Jones & Co., Covington, Ky., a corporation of Kentucky). U.S. 2,903,833, Sept. 15. An apparatus for gluing and sealing cartons having an open end, including a pair of side flaps and a pair of end flaps.

**Metering Device for Squeeze-Type Container**, Dean M. Graham (to The Upjohn Co., Kalamazoo, a corporation of Michigan). U.S. 2,904,227, Sept. 15. A device for dispensing a metered amount of fluid, adapted for mounting upon the outlet of a container.

**Pre-Wrapped Box**, William H. Perry and Louis J. Olivier (to Cambridge Paper Box Co., Cambridge, Mass., a corporation of Massachusetts). U.S. 2,904,238, Sept. 15. A box comprising a tubular member formed of a plurality of permanently connected sides which may be folded upon themselves to be in collapsed position, or which may be erected to article-receiving formation.

**Easy-Opening Air-Tight Container**, Edward H. Southwell and Earl A. Enal (to E. H. Southwell Co., Los Angeles, a corporation of California). U.S. 2,904,240, Sept. 15. A container comprising a wall member constructed of a plurality of spiral-wound laminated layers, a spiral-wound pull cord positioned between said laminated layers for severing at least one of said layers upon being unwound.

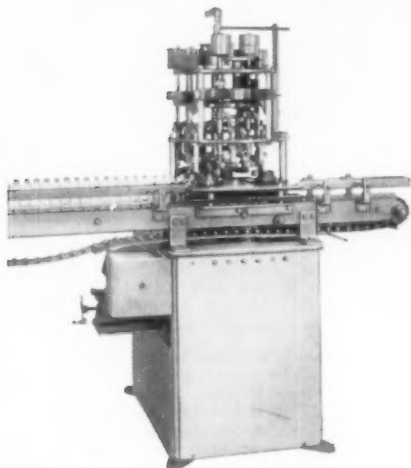
**Bag**, Edward S. Gorton and Claude E. Hayward (to Bemis Bro. Bag Co., St. Louis, a corporation of Missouri). U.S. 2,904,241, Sept. 15. A multiwall paper bag having at least three plies and provided at its ends with pasted closures, each comprising inwardly directed end flaps defined by longitudinal slits.

**Method and Apparatus for Packaging Articles in Shrinkable Plastic Film**, Robert L. Dreyfus, Milton A. Howe, Jr., and Richard R. Perdue (to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut). U.S. 2,904,943, Sept. 22. A method of sealing the multi-layer overwrap area of an article wrapped in shrinkable plastic film, comprising the steps of placing the multi-layer overwrap area of said package in contact with one side of a high-temperature-resistant flexible carrier material.

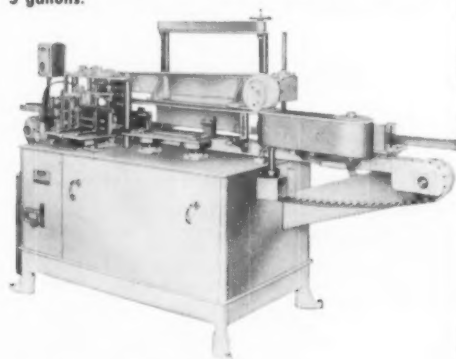
**Carton-Filling Apparatus**, Charles E. Kerr (to Food Machinery & Chemical Corp., San José, Calif., a corporation of

**mrm**

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**Fillers** —overhead drive in vacuum, gravity and volumetric types. Models from 8 to 40 spouts handling all types of foamy and still liquids—for glass, metal or plastic containers from fractional ounce to 5 gallons.



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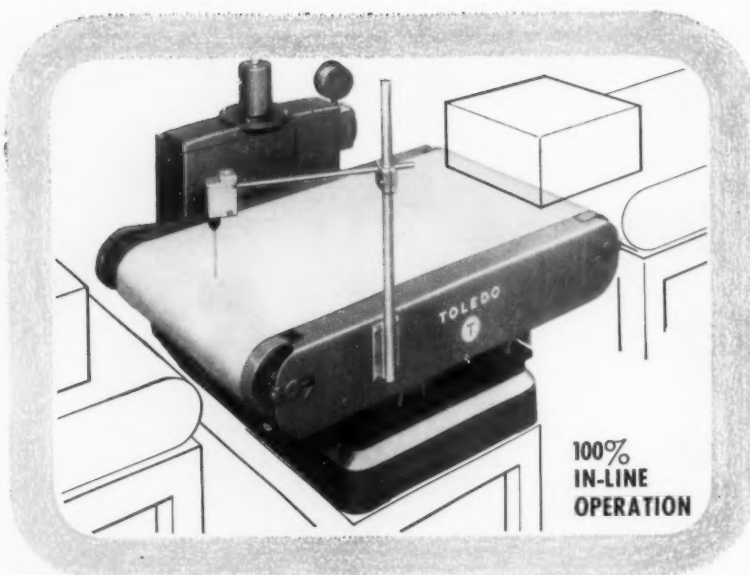
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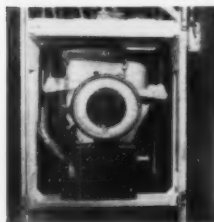
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### Patents [Continued]

Delaware). U.S. 2,904,945, Sept. 22. In a packaging machine, apparatus for packing material in rectangular cartons, comprising means for supporting a carton having one end thereof open.

Process and Machine for Producing Cartons, Roger J. Van Vick and Lester E. Erickson (to Central Fibre Products Co., Quincy, Ill., a corporation of Delaware). U.S. 2,905,065, Sept. 22. A machine for producing cartons by assembling cross partitions with the body of a carton having two slotted plies in substantially flatwise relation.

Mechanism for Turning Packages, Andrew W. Anderson (to Scandia Packaging Machinery Co., North Arlington, N.J., a corporation of New Jersey). U.S. 2,905,295, Sept. 22. A chute for receiving rectangular packages in vertical position and delivering said packages in horizontal position.

Light-Bulb Carton and Overwrap Therefor, Homer W. Forrer (to Mead-Atlanta Paper Co., Atlanta, a corporation of Ohio). U.S. 2,905,316, Sept. 22. A carton of the character described, comprising foldably connected side walls, one of said side walls having a flap member thereon secured at the inner face of an adjacent side wall.

Container With Snap-Acting Closure, Thomas R. Jerome (to Farrington Mfg. Co., Needham Heights, Mass., a corporation of Massachusetts). U.S. 2,905,356, Sept. 22. A container of the snap-open snap-closed type, comprising a base member and a closure member, each having generally parallel upstanding side walls with the side walls of one member embracing the side walls of the other member when the container is in closed position.

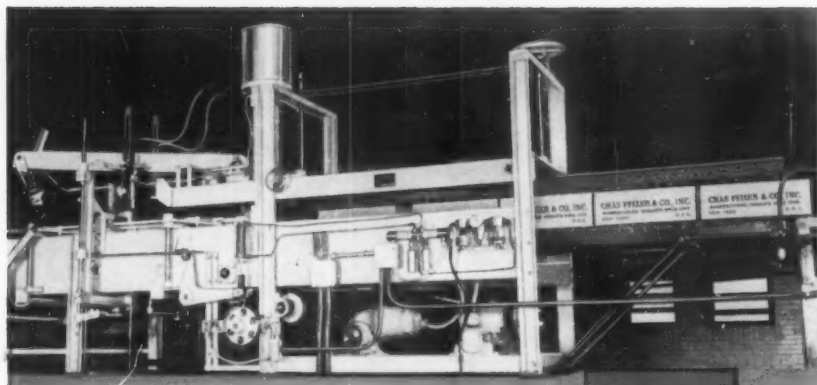
Machine for Inserting Articles Into Cartons, Robert K. Galloway (to Food Machinery & Chemical Corp., San José, Calif., a corporation of Delaware). U.S. 2,906,392, Sept. 29. An article-handling mechanism comprising a first conveyor, means for driving said first conveyor at a fixed speed, a second conveyor parallel to said first conveyor, and means for driving said second conveyor at twice the linear speed of said first conveyor.

Bag, Russell J. Williams (to Bemis Bro. Bag Co., St. Louis, a corporation of Missouri). U.S. 2,906,446, Sept. 29. A bag having a closure at one end and provided with a valve at one corner of said end, said closure having an inwardly directed end flap at said valve corner and said valve comprising a flexible sleeve secured to and projecting inward from said end flap.

Product-Dispensing Container, Joseph F. West (to Wheaton Glass Co., Millville, N.J., a corporation of New Jersey). U.S. 2,906,462, Sept. 29. A composite container containing a product and a gaseous propellant.

Feeder for Carton and the Like Material, Henry L. McWhorter and Elmer M. Montgomery (to Michle-Goss-Dexter, Inc., a corporation of Delaware). U.S. 2,906,529, Sept. 29. A machine of the class having a reciprocating flat bed coating with a rotary impression member for processing sheets fed into the bite between said member and said bed.





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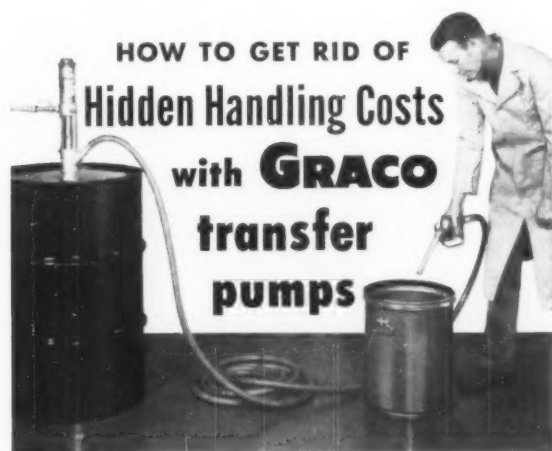
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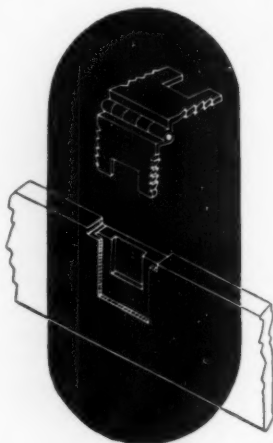


DEPT. MP, MILWAUKEE 45, WISCONSIN

Also see pages 198, 222, 228.

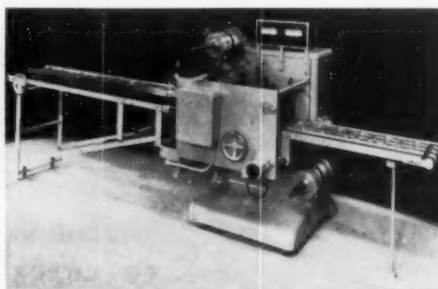
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**CHANGE PACKAGE SIZES WITHOUT EXCESSIVE DOWNTIME!** Handwheel controls for varying the pouch width, and a simple gear change for varying pouch length, — both made without disturbing the heat-sealing units — provide almost instant adjustability. Thin articles (not necessarily uniform in shape) are pouch packaged between two endless strips of heat-sealing packaging materials at speeds up to 80 per minute. Pouch sizes range from a minimum of 2" x 2" x 1/16" to 27" x 15" x 1 1/2" maximum. The "Flexopaker" is especially applicable for articles in the textile, food, automotive parts, industrial products, hardware or similar industries. High speed "Continuous Flow" performance but with a low price tag. Battle Creek "Continuous Flow" Packaging Machines, Inc., Battle Creek, Michigan.

## High speed for bottles

[Continued from page 114]

containers pass into a sealed sterile room where they are prepared for filling on a continuous and highly specialized unit that employs ultraviolet radiation.

Passing then by conveyor into a second sterile room, the bottles enter a filler, also modified. This eight-head volumetric unit is supplied by a single, positive-displacement pump which supplies the filling head. Lifters on the filler merely hold the bottles in position under the filling nozzles, but do not exert pressure on the container. Also, the nozzles do not seal the containers, which would prevent escape of air. Filling is done under a pressure only slightly above that of the atmosphere. From here, the primary packaging job is completed by the addition of the bottle's two smallest components.

Two special machines have been built to insert plugs and apply caps to the finished bottles. The plug unit aligns these tiny polyethylene packaging components by means of a vibratory feeder and a slotted track. Notches in a rotary plate pick

off the plugs and transfer them to spring-loaded, cam-action chucks mounted on a rotary head that press the plugs into the bottle necks.

The capper works in a similar manner, except that lugs on the rotary feeder plate are employed instead of notches to transfer the closures. Both machines have cam safety rods that eject plugs or caps from the chucks if they are not applied to a bottle. While new, these machines employ mechanical principles that have been used before on similar packaging operations. All transfer conveyors between equipment from the point of bottle sterilization to the capping station are shielded with hoods equipped with ultraviolet tubes to prevent accidental contamination. Caps and plugs are pre-sterilized with an ethylene oxide carbon dioxide process before being brought to the filling room and are protected from recontamination by ultraviolet radiation in the vibratory feeders and by additional tubes mounted over the feed tracks. This is the final packaging operation to be done under sterile conditions.

Leaving the sterile filling and clos-

ing room, the bottles immediately enter a unit that applies cellulose safety bands to the neck and cap of the bottle. The bands on both the 5- and 15-cc. bottles are die cut with an easy-opening pull tab.

The only special modification that was needed in this machine was the design of twin rotary heads small and precise enough to handle the tiny bands.

However, because further packaging operations are performed on these bottles, the wet cellulose bands must be shrunk promptly. For this operation, Alcon has adopted an effective high-speed drying system. Consisting of two conveyor loops, each equipped with eighteen 1,000-watt quartz heating lamps arranged in twin banks, the unit provides 40 linear feet of heating area. Parabolic reflectors focus the heat on the bands for maximum efficiency and to obviate melting of the caps and need for ventilation of the room. The seals dry in a 3-min. run on their way to the final machine operation.

The bottles are labeled on a thermoplastic machine equipped with a new, continuous roll-label  
[Continued on page 192]



**TWENTY-TON LOAD** aboard trailer fails to bother multiwall sack made with CLUPAK kraft. Patented, built-in stretch absorbs shock as wheels pass completely over. Sack contains 100 pounds of abrasive sand-blasting grit, found difficult to package prior to use of CLUPAK paper multiwalls.



**NAIL SHAKE-UP** test shows how CLUPAK paper resists puncture. After two minutes, ordinary bag resembles porcupine, but only two nails have penetrated tough, flexible CLUPAK paper.



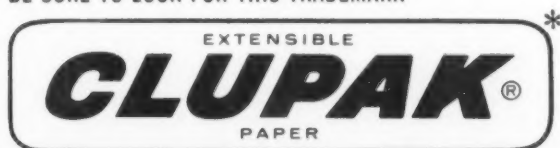
**MAIL GOES THROUGH** without complaints when the wrapper is CLUPAK kraft. Leading magazines find tough, flexible CLUPAK paper survives rough handling far better than ordinary kraft wrap.

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**KEY FACTS FOR BUYERS:** CLUPAK kraft is the same as ordinary kraft except that it is stronger, tougher and more flexible. It can be made in many basis weights, and with varying degrees of stretch. Printability, surface friction, porosity and other properties can be controlled as with ordinary paper. Clupak, Inc., does not make paper. It carries on continuous research and development work, and results are made available to all licensees, listed below. **Clupak, Inc., permits use of its trademark only on paper which meets this company's rigid toughness requirements.** Clupak, Inc., 530 Fifth Avenue, New York 36, N. Y.

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Dynas Aktiebolag (Sweden)

Hudson Pulp and Paper Corp.  
International Paper Co.  
St. Lawrence Corp., Ltd. (Canada)  
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to show you how cellophane's many  
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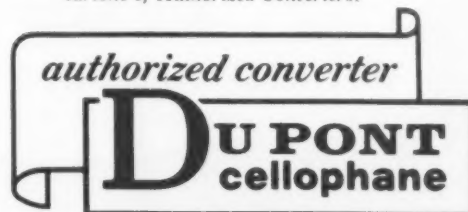
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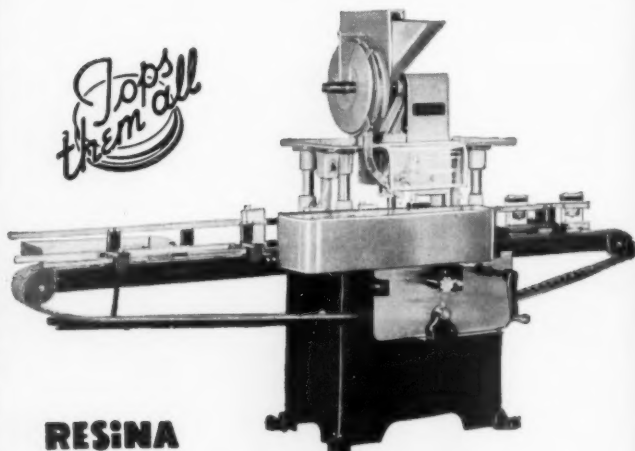


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Seals from  $\frac{3}{8}$ " to  $1\frac{1}{2}$ ".

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Agents in principal cities throughout the United States and Canada.

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**RESiNA**

**AUTOMATIC MACHINERY CO., INC.**

Brooklyn 31, New York

[Continued from page 188]

feed that avoids any possibility of mixing labels for different products. The labels are coated with a special adhesive compatible with the polyethylene and the machine performs the application of labels with minimum pressure, always a prime advantage for plastic containers. A two-line coder permits inclusion of both batch number and expiration date on the label.

Final packaging step is the hand enclosure of the bottles in polystyrene vials with polystyrene plug caps. Bottles are also hand cased in RSC corrugated shippers and sealed on an automatic unit. Future in-line inspection of the completed bottles with the aid of a magnifying device may enable replacement of the hand operation with automatic equipment.

Successful operation of this line and its solution of the several problems of running plastic bottles is so encouraging that Alcon may next package its special ophthalmic solutions for surgical operations on this line. For these sterile solutions, 2-cc. bottles are used that must also be sterilized on the outside, then aseptically sealed in polystyrene vials. ●

### Aluminum oil cans

Continental Can Co.'s program of offering 1-qt. aluminum oil cans at the same price as the present steel cans, for large-scale commercial tests by oil companies, has proved so successful that it has been extended through 1960, according to Reuben L. Perin, executive vice president of the company's Metal Division. Twelve major refiners in all parts of the country participated in the tests and industry shipments of aluminum oil cans are expected to reach an annual rate of 200 million units by the end of this year, according to Mr. Perin. Continental Can's announcement emphasized that the current competitive price offer of aluminum cans applies to 1-qt. non-refillable cans for lubricating oil.

Advantages reported for aluminum cans include reduction in transportation costs due to weight savings, greater resistance to corrosion, easier opening and removal of the device used to funnel oil into the crankcase and more convenient disposal of empty cans. ●

## Military seminars

A series of nationwide military packaging seminars for industrial management, designed to clear up misconceptions concerning the "why" and "how" of military packaging requirements, has been announced by Vice Admiral E. W. Clepton, USN, Chief of Naval Material.

The conferences, half-day sessions to be held in more than 30 cities during the coming months, will be open to management and packaging executives of all industries now working on Government military contracts or contemplating such work in the future. In each locality, the seminar will be sponsored by the Office of the Inspector of Naval Material, where information as to specific date and place will be available. Arrangements to attend may be made through the closest Navy Inspector's Office. Present plans call for conferences in at least 33 cities where Naval Material offices are located. Additional sessions will be arranged where interest by industry is sufficient to justify the program. Persons attending will be encouraged to ask questions. Answers will be given on the spot when possible. Questions involving other agencies will be answered by mail.

Washington technicians who will address the seminars are L. C. Heller and C. K. Hall of the Packaging Section, Office of Naval Material. Sessions are currently being conducted and are scheduled to continue through June 25, 1960. •

## Polyethylene standard

The Commodity Standards Division of the U. S. Dept. of Commerce has announced that a Commercial Standard for polyethylene film, designated Polyethylene Film, C3227-59, became effective on Nov. 15. The new standard is based upon the proposed standard requested by the Polyethylene Film Div. of The Society of the Plastics Industry, adjusted as far as practicable in accordance with comment from other interests.

A printed edition of the new standard will be issued within the next few months and copies will then be available on request to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. •

## VERSATILE 4 VALVE FILLER ELGIN "QUAD"

### For Liquid and Viscous Products

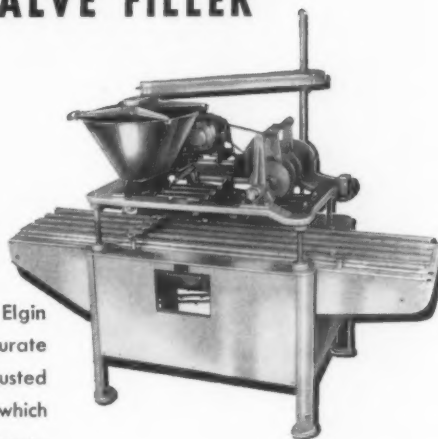
Ideal for glass or tin containers, the Elgin "Quad" is the highspeed, accurate producer—easily and quickly adjusted for fill, and speed! The piston stroke which governs fill in all 4 valves is easily controlled by a single micrometer screw adjusting handle. The upper table assembly is quickly adapted to all container heights by a single hand wheel.

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## Completely Automatic

### BAG CLOSING OPERATION!

## SAVE A SALARY EVERY WEEK WITH THE New FRY "TOMMY TUCKER"

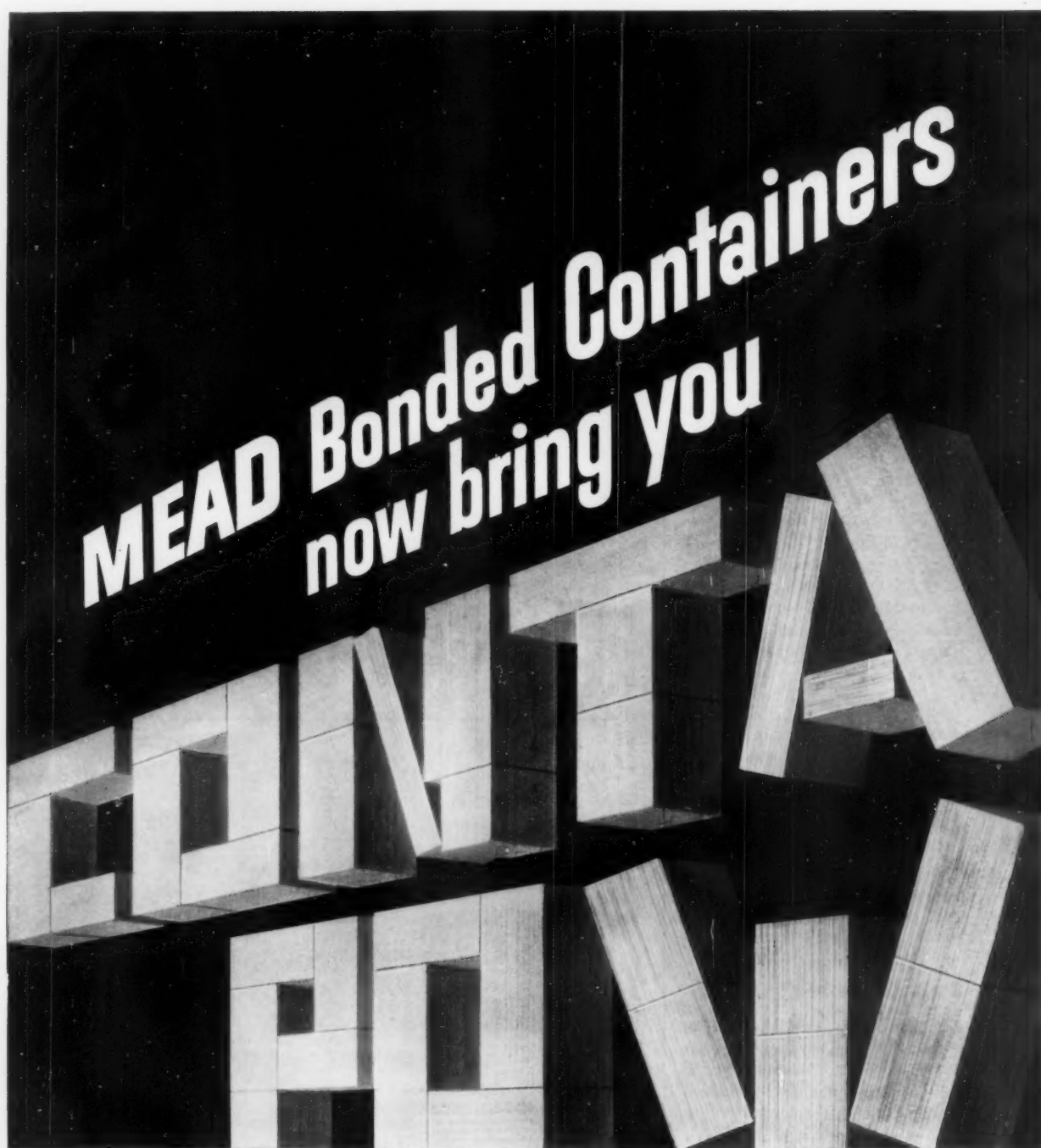
■ Here is the answer to the great demand for a fully automatic bag closing line, the FRY Tommy Tucker Machine! Not only does it eliminate two steps formerly requiring the services of an operator, but also has proven itself 100% trouble-free under strenuous production conditions! Plus—now you can speed up production—up to 50 bags per minute—and yet produce neater, uniform appearing packages. Designed to operate between Fry Closing Machines and V-30 Vibrator, the Tommy Tucker will, 1—tuck the bag ends and, 2—flatten the bag top for proper feeding into the CBG machine. No synchronization necessary—no bag jamming possible and no operator needed!

WRITE FOR NEW, INFORMATIVE LITERATURE ON ALL FRY MODELS. PLEASE ENCLOSE SAMPLE OF PRODUCT & BAG.

## GEORGE H. FRY COMPANY

42 East Second Street, Mineola, N. Y. — Pioneer 6-6230





## — a new concept in corrugated containers that can help cut your



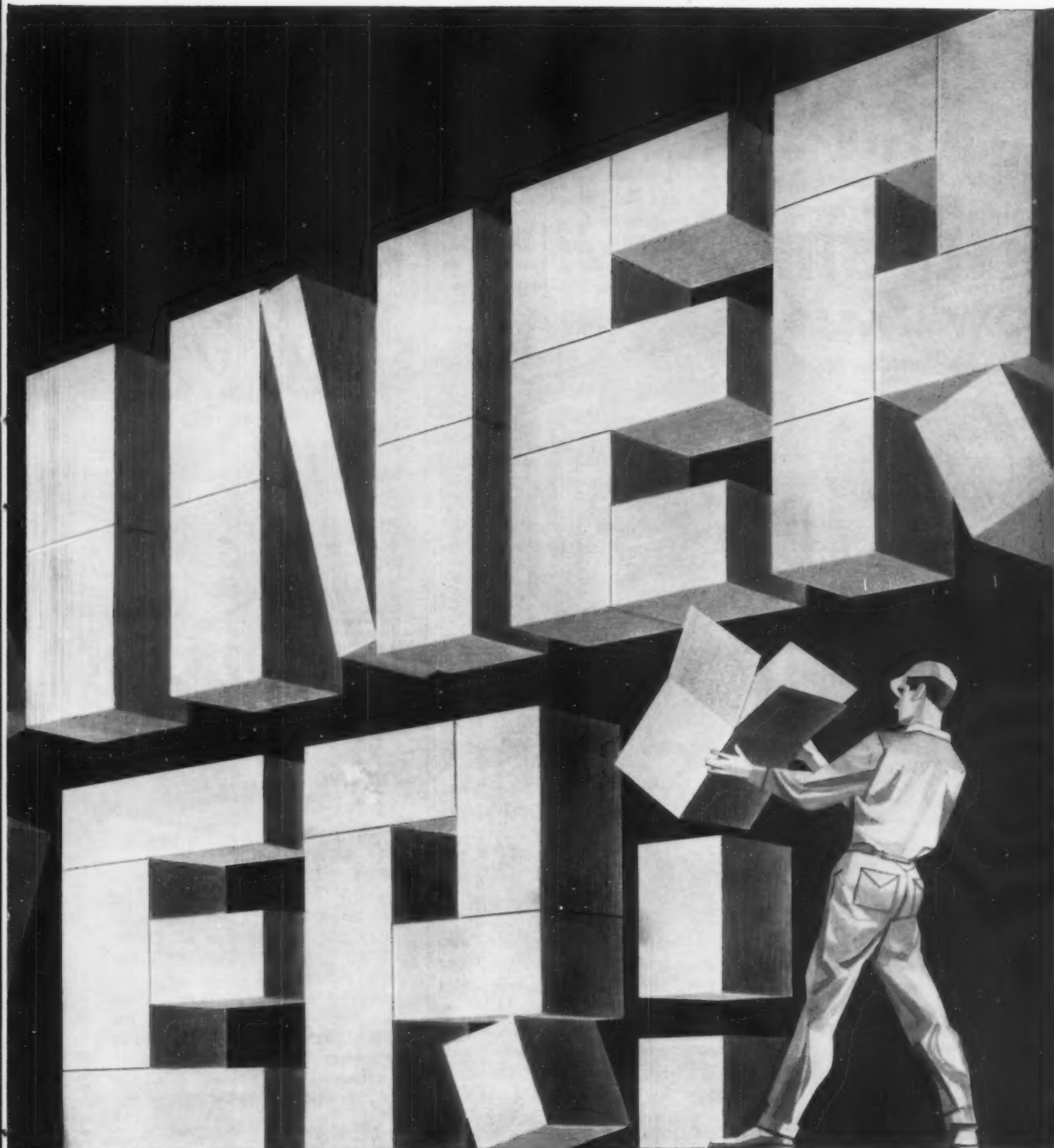
A year ago, Mead made news with its Mead Bonded Containers in which Mead containers that bear the Mead Bonded seal are guaranteed with a \$500,000 bond to meet the specifications of Rule 41 and Rule 5. Now Mead makes news again—with a new, more dynamic, more functional container concept . . . Mead Container Power! With Mead Container Power, your corrugated shipping containers can work for you in powerful ways that go far beyond just protecting your product during shipment.

**Mead Container Power helps cut your packaging costs**—can save man-hours on the packaging line, save materials in the container itself.

**Mead Container Power helps sell your product**—your containers can do a better merchandising job—work hard for you at the point of sale.

**Mead Container Power smooths your product's way through distribution channels**—through better handling, stacking, identification on the loading dock, in the warehouse, in the stock room, on the sales floor.





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## MSU fund grows

The Michigan State University School of Packaging Foundation, organized by industry to provide support to the University's School of Packaging at East Lansing, Mich., announces the receipt of 19 cash gifts and pledges toward a \$2,000,000 building fund.

The gifts so far, ranging from \$25,000 to \$2, total approximately \$75,000. Among the larger donors are: Signode Steel Strapping Co., \$25,000; Bristol-Myers Products Div., \$20,000; Owens-Illinois Glass Co., \$20,000; American Box Board Foundation, \$5,000; The Johnson Wax Fund, \$1,000; Plax Corp., \$700; Sharon Steel Foundation, \$500; Chas. T. Main, Inc., \$500; All-Pak Corp., \$500; American Flange & Mfg. Co., \$500; National Paper Box Mfrs. Assn., \$500.

Michigan State University, in its School of Packaging, has the only four-year packaging curriculum in the country leading to a degree in packaging. The activity is now being expanded to post-graduate study and research. While the University maintains and administers the school, outside funds are needed to build and equip a suitable building to replace present cramped quarters which are drastically restricting enrollment. The Foundation, with a Board of Trustees comprising 40 executives from companies in all phases of the packaging field, was organized to channel this type of support to the school.

At a recent meeting of the Foundation Board in East Lansing, it was agreed that packaging companies and trade associations would be encouraged to establish packaging research facilities in conjunction with the School. The Glass Container Mfrs. Institute already has located its research laboratory in East Lansing, although not in direct connection with the School.

Provision will be made for large donors to build and equip laboratories and rooms, in their own names, in the new School of Packaging building, preliminary plans for which have been drawn.

Further information can be obtained from H. G. Walter, Executive Director of the Michigan State University School of Packaging Foundation, Inc., at 2918 Kenneth Ave., N., Chicago 41. ●

# Want your labels Permanent?

use these special

## KLEEN-STIK® HIGH-Tack

Pressure-Sensitive Stocks



**MANY LABELS** are intended to remain in place on product or package. To make sure your labels stay put, specify one of KLEEN-STIK's special "high-tack" adhesive stocks—they go on easy, yet stick tight on any smooth, hard surface. With KLEEN-STIK, you know you're getting the best pressure-sensitive stock for the job.

- Litho No. 670-L
- Kromekote No. 670-K
- Foil No. 470-M  
(Gold or Silver—Bright or Dull)
- Clear Acetate  
2-mil No. 270-CA 5-mil No. 570-CA  
3-mil No. 370-CA
- Colored Litho No. 670-CL
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- "Tampersproof" Litho No. 570-TP

*Your Printer Can Help You  
choose the right stock  
for your permanent*

**KLEEN-STIK LABELS**

*Write for free samples, full details*

**KLEEN-STIK** Products, Inc.

1934-1959 . . . 25 Years of  
Pressure-Sensitive Leadership

7300 W. WILSON AVE. • CHICAGO 31, ILL.

## Package cushioning

[Continued from page 145]

tend to reduce the accuracy of the selection. Nevertheless, such a method is a valuable aid in determining which materials are best suited to protect specific items. This cushioning-selection process should be followed by drops of the complete package of the particular material whenever possible before the package and packaging material are adopted for shipment.

## References

1. Crede, C. F., "Vibration and Shock Isolation," John Wiley & Sons, Inc., New York, 328 pp., illustrated, 1951.
2. Kerstner, O., "General Principles of Package Design," Northrop Aircraft, Inc., Report 57-187, 1957.
3. Stern, R. K., "The Cushion Factor-Stress Curve and Its Value for Classifying and Selecting Package Cushioning Materials," WDAC Technical Report 58-223, ASTIA Document No. 205071, 1958.
4. Stern, R. K., "The FPL Dynamic Compression Testing Equipment for Testing Package Cushioning Materials," FPL Report No. 2120, 1958.
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## Idea exchange

[Continued from page 99]

ideas by any means limited to package forms and designs. The need and possibilities are even greater in the realm of machinery, where basic principles are as applicable to one as to another industry. Improvement in pouch-forming equipment may be as useful to the potato-chip manufacturer as to the manufacturer of chemicals. The same basic filling machines can be equipped to fill motor oil or paints.

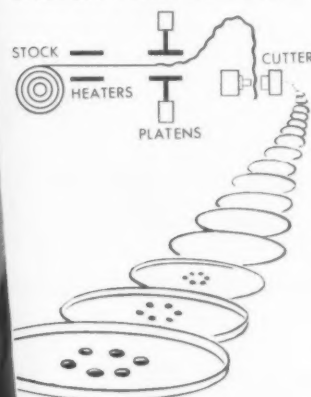
What may be missed by the packager who does not observe machinery developments in all fields can be illustrated by the versatility of just one piece of equipment—a standard vacuum pick-up labeling machine. This labeler has been put to work in one plant as a filler to pick up and deposit multiple layers of Herb-Ox bouillon cubes in a rectangular plastic container; in another, to pick up and seat rosette-shaped paperboard cover disks on Seaforth shaving-soap

# BROWN 22C\*

## continuously produces precision formed plastic caps for the PUREX Corporation Ltd.



\* BROWN 22C CONTINUOUS VACUUM FORMING MACHINE



The Brown 22C is the only available machine capable of performing at the ultra-high production rates necessary to fulfill Purex requirements. These same high rates are also applicable to the production of disposable plastic items such as coffee cups, cottage cheese containers and other packaging items.

BROWN'S EXPERIENCED ENGINEERS HAVE THE TECHNICAL KNOW-HOW TO HELP SOLVE YOUR PLASTICS PACKAGING PROBLEMS.

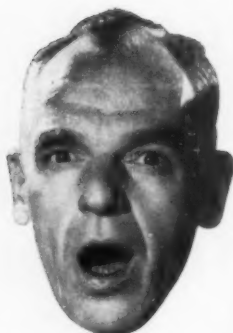
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BROWN MACHINE COMPANY • BEAVERTON, MICH.

# WOW!

**"No Adhesive Can  
Be That Perfect"**



"To be that good there *must* be something wrong with it . . . but we sure haven't found it up to now."

A customer said this recently about one of our envelope gums. What he meant was that it did everything he expected of it — and more.

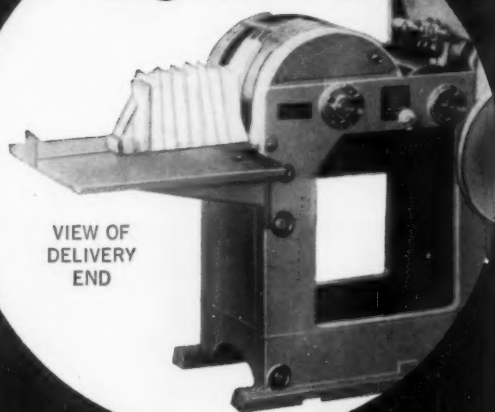
Machined perfectly. Allowed top machine speeds. Handled even toughest stocks. Made a better product — at a lower cost.

THERE'S A FINDLEY ADHESIVE TO PUT "WOW" IN YOUR PACKAGING OR CONVERTING, TOO.



Dept. MP, Milwaukee 45, Wisconsin  
Also see pages 187, 222, 228

## MATADOR Bag Machine



VIEW OF  
DELIVERY  
END

For converting kraft paper, mounted aluminum foil, glassine, sulphite, etc. in a wide range of sizes into flat and square bags.

Send for our new bag size chart.

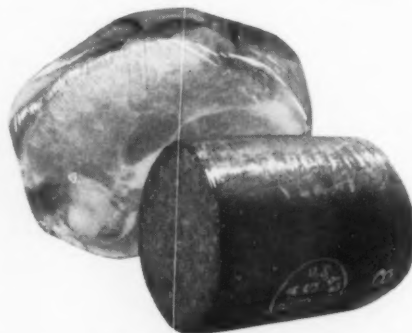
**HEINRICH EQUIPMENT CORP.**

111 Eighth Avenue, New York 11, N. Y.

for clear, skin-tight packaging of

# MEAT

(and a variety of products)



new shrinkable, oriented

# REYNOLON®

PVC FILM

New Reynolon oriented PVC film offers an ideal solution to better, less costly packaging of many food items—meats, poultry, cheese, fruits, vegetables plus a wide variety of other items such as window shades, stationery supplies, paper products and others.

In addition to economy this new Reynolon film also offers you these advantages: It is crystal clear. It is shrinkable—provides a skin-tight package. It has high tensile strength, offers low temperature flexibility, has good shelf life. It is printable and sealable by heat or by adhesives. It can be metalized. It is easily laminated to paper, chipboard and other materials.

For details and technical assistance on Reynolon films, contact the Reynolon Plastic Specialist in the Reynolds office in New York, Camden, Detroit, Chicago, St. Louis or Los Angeles. Or write *Plastics Division, Reynolds Metals Company, P.O. Box 2346-RM, Richmond 18, Virginia.*



**PLASTICS DIVISION  
REYNOLDS METALS COMPANY**



mugs and, in a third plant, to lock LaCross manicure instruments inside a carded transparent-dome package.

How far can this criss-crossing of ideas go? A current example is the move by *The New York Times* to extend mechanized packaging to newspapers by bagging Sunday mail editions in heat-sealed polyethylene.\* The idea originated with the *Times* mail foreman who watched meat being packaged in plastic film while shopping with his wife in a supermarket. A few weeks later the foreman and a member of the circulation department went to the AMA Packaging Exposition in the New York Coliseum looking for packaging machinery and such machinery has since been installed to meet the newspaper's requirements. Result: All 80,000 Sunday mail subscriptions are to be film packaged.

Packaging ideas borrowed unexpectedly by one industry from another can be cited indefinitely.

- A maker of mop sticks gets the idea for a floor-stand display from one designed for baseball bats.

- The swivel-stick cologne came from the swivel lipstick.

- The idea for the new, single-use, small-sized tetrahedron-shaped containers of transparent film or foil for soap and suntan lotion came from the waxed or plastic-coated paper containers of the same shape for milk, orange juice and ice cream. (See "Transparent Tetrahedrons," MODERN PACKAGING, Oct., 1959, p. 133.)

- Dow Chemical's huge cutting-edge cartons for giant-sized rolls of polyethylene film used by the building trades are an adaptation of the familiar cutting-edge carton for household waxed paper or aluminum foil. (See "New Way to Packaging Control," MODERN PACKAGING, Aug., 1959, p. 86.)

- The new tear tape on the plastic bags inside Duncan Hines cake-mix packages came from the tear tape on cellophane-wrapped cigarette packages. (See "Tear Strip All the Way," MODERN PACKAGING, Sept., 1959, p. 107.)

- An imported concentrated soup comes from Sweden molded and wrapped like a chocolate bar.

- A wax patty to burn in fireplaces, Fire-Magic-Fiske Colorstick, takes its packaging idea from the fluted

\*See "The Times in Polyethylene," p. 124, this issue.

## A CONVEYOR for Every Need A need for every CONVEYOR

from

**MERCURY**

Mercury-designed conveyors are engineered to service specially required transfer of your finished package. Again, in the Mercury tradition, the accent is on simplicity of operation, accuracy and economy!

### TABLE FEED CONVEYOR

Specially designed for articles requiring manual feed.

### NEW IMPROVED PORTABLE TAKE-AWAY CONVEYOR

New belt flights prevent sliding and bunching. Self-starting, variable speeds.

### ACCUMULATING TABLE

Designed to more fully mechanize your product packaging.

### A Design to Satisfy Every Conveyor Need



**MERCURY**

Heat Sealing Equipment Co.  
GA 3-9606

2601 N. HOWARD ST. • PHILA. 33, PA.

# 60 STOCK SIZE FOLDING CARTONS

**for MAILING  
for PACKAGING**

MADE FROM  
VIRGIN KRAFT BOXBOARD  
ALL CARTONS MEET  
FEDERAL SPECIFICATIONS

1 x 4 x 6 1/4	2 1/2 x 2 1/2 x 4
1 x 8 1/2 x 11	2 1/2 x 2 1/2 x 6
1 1/4 x 2 x 3	2 1/2 x 2 1/2 x 8
1 1/4 x 2 1/2 x 4 3/4	2 1/2 x 3 1/2 x 5 1/2
1 1/4 x 3 1/2 x 3 1/2	2 1/2 x 3 1/2 x 6 3/4
1 1/2 x 1 1/2 x 3	2 1/2 x 4 x 6 1/4
1 1/2 x 1 1/2 x 4	2 1/2 x 8 1/2 x 11
1 1/2 x 2 3/4 x 3 1/2	2 3/4 x 2 3/4 x 2 1/4
1 1/2 x 2 3/4 x 5 3/4	3 x 3 x 4
1 1/2 x 3 1/4 x 5 3/4	3 x 3 x 6
1 1/2 x 5 1/2 x 7 3/4	3 x 3 x 8
1 1/2 x 8 1/2 x 11	3 x 3 x 10
1 3/4 x 2 1/2 x 4	3 x 5 1/2 x 5 1/2
1 3/4 x 2 3/4 x 3	3 x 5 1/2 x 8 1/2
1 3/4 x 3 1/4 x 6 3/4	3 x 8 1/2 x 11
1 3/4 x 2 x 3 3/4	3 1/4 x 5 x 7 1/4
2 x 2 x 3	3 3/4 x 3 3/4 x 3 3/4
2 x 2 x 4	3 1/2 x 4 1/2 x 5
2 x 2 x 7	3 1/2 x 6 x 8 1/2
2 x 2 3/4 x 4	4 x 4 x 4
2 x 3 x 5 1/4	4 x 4 x 6
2 x 3 x 11	4 x 4 x 8
2 x 3 1/2 x 5	4 1/4 x 4 1/4 x 4 1/4
2 x 4 1/2 x 7 1/4	6 x 8
2 x 5 x 11	9 x 11 1/2
2 x 8 1/2 x 11	11 x 13 1/2
2 1/4 x 2 1/4 x 5	12 3/4 x 15
2 1/4 x 4 1/4 x 6	9 3/4 x 12 1/4
2 1/4 x 7 x 7	13 x 18
2 3/4 x 4 3/4 x 7 3/4	17 x 21

ABOVE SIZES IN STOCK  
FOR IMMEDIATE SHIPMENT.  
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## SHORT RUNS *Our Speciality*

If none of the stock sizes fit your requirements, we can make as few as 100 special size cartons at a very modest cost. Send us your item or size. QUOTES and SAMPLES on REQUEST

**FREE**  
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We would like to send you this gift to put on your desk—your name on the cover. Type your name on your letterhead and send it to us. No obligation.

**CALUMET CARTON CO.**  
Folding Division • Homewood, Illinois

glassine cups used for confections.

● Fibre floor mops are being packaged in the same style of lidded, transparent, rigid polystyrene containers as those used for popcorn and seafood. (See "Capturing the Qualities of Mops," MODERN PACKAGING, Nov., 1959, p. 139.)

The more products a company makes, the more dependent it is upon a continual flow of ideas from outside its industry.

The Eastman Kodak Co. has infinite variety in the 15,000 packaged products it sells and through a great diversity of its outlets. In the now familiar carded blister pack and pegboard rack, first used in the hardware industry, Kodak saw an effective way to merchandise inexpensive cameras the same as others display hardware. In the multipack idea, originating with beverages,

Kodak saw the way to merchandise two rolls of film as a twin pack. In the gravity-feed counter dispensers like those used for aspirin, Kodak stimulated the sale of lens cleaners.

Where does Kodak get these ideas? Ask Carmon Elliott of Kodak's Package Design Division. He'll tell you that they get them by making a practice of reading *across the board* about what's being done in every field of packaging, industrial and consumer; by getting around to packaging meetings; by visiting dealers and tailoring packaging ideas to their requirements.

So it goes, coming back always to one lesson: The most valuable ideas are those that come unexpectedly from beyond the horizon. Those who look beyond the packaging in their own industry are those who get the priceless payoffs. ●

## Winners in flexible packaging

[Continued from page 109]

easy reclosure. Bag and design by Shelly, Inc.

**Frozen Foods:** For display versatility, design on the carton overwrap for Sea Pak frozen shrimp is printed vertically on one side, horizontally on the other. The overwrap is 0.00035-in. aluminum foil laminated to 25-lb. bond. It also won a second award in the *Foil Sheets and Rolls* category. Overwrap by Reynolds Metals; design by Gerald Stahl, Inc.

**Dry Grocery and "Snack" Items:** A sturdy and protective triple-wall bag for Kings Kennel dry dog food was Topco Associates' winning entry. Also a merit-award winner in the *Paper Bags* category, the colorful self-selection bag with roll-down closure is made of 50-lb. supercalendered bleached white pique, 50-lb. standard shipping-sack kraft and 43-lb. greaseproof parchment. Bag by Continental Can's Flexible Packaging Div.

**Beverages and Tobacco:** For holiday gift appeal, Hiram Walker whiskey cartons have aluminum-foil-laminated paper overwraps, decoratively embossed with a design of heraldic lions. The packaging also took a merit award in the *Foil Sheets and Rolls* category. Foil overwrap by Reynolds Metals.

**Hard Goods:** A functional self-selection package for wood screws is National Screw Mfg.'s hang-up

polyethylene bag with an easy-opening and reclosing feature. Heavy 3-mil walls prevent bag tearing or moisture damage to the screws. Bag by Kennedy Car Liner & Bag Co.

**Sporting Goods, Toys and Games:** Top honors went to the form-fitting, printed polyethylene bag for Burgess Cellulose Co.'s rectangular Boat Bailer sponge. It also won a merit award in the *Polyethylene Bags and Pouches* category. Bag by Dow Chemical's Dobecknum Co. Div.; design by Dave Chapman, Inc.

**Household Equipment and Supplies:** To dramatize its longer-life household lamp bulb, Duro-Lite Lamps dressed up the conventional single-faced corrugated lamp wrapper with a sparkling outer foil lamination. Wrapper by Milprint.

**Pharmaceuticals, Drugs, Cosmetics and Chemicals:** Manard Products' Duotone record-cleaning kit is a three-compartmented polyethylene envelope. Product components are kept separate by vertical heat seals in the printed, 3-mil-walled, self-selection package. Also a merit-award winner in: *Polyethylene Bags and Pouches*. Package and design by Wrapture, Inc.

A complete listing of second- and merit-award winners can be obtained from National Flexible Packaging Assn., 11750 Shaker Blvd., Cleveland 20. ●



## A SHIPPING CONTAINER IS A TWO-EDGED SWORD

Time was when the corrugated box had a single purpose: protecting your product in shipping. Today's container shows a second, more aggressive side. Used for advertising and merchandising, it can help promote your product. But to do so, it must have a surface that takes crisp, clear printing.

That's why manufacturers and boxmakers rely on St. Regis Seminole Kraft Linerboard. This smooth, superior kraft represents the ultimate in uniformity and printability. On Seminole Linerboard, your trade-mark, brand name and content identification stand out bright and sharp. When you talk to your boxmaker, specify St. Regis Seminole. For protection and printability, there's no finer linerboard than Seminole.

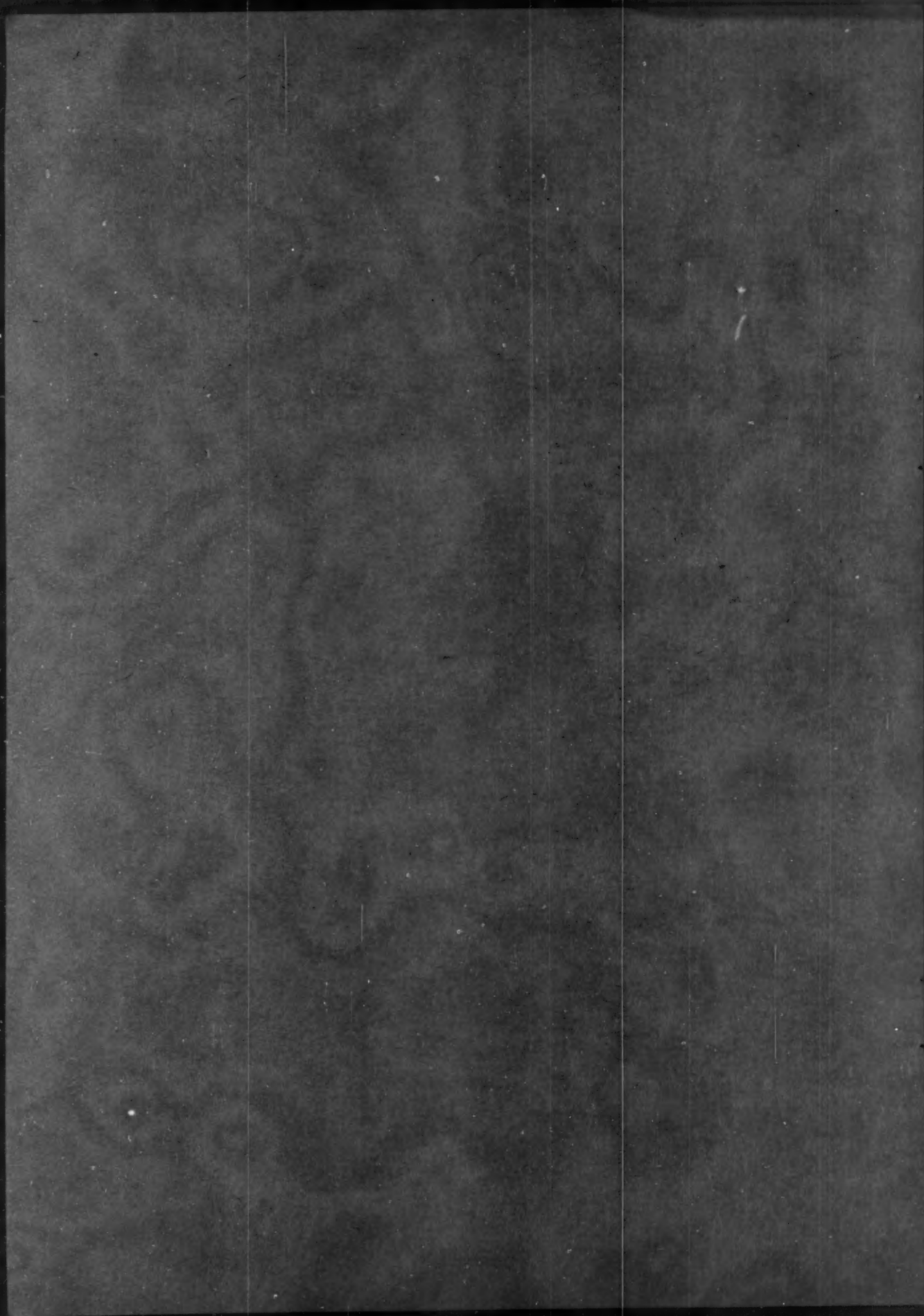
KRAFT DIVISION

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### EQUIPMENT • SUPPLIES • SERVICES

**TACKERS, STAPLERS, BRAD GUNS.** Illustrated 26-page catalog describes a line of gun, hammer, strike and air-powered tackers, brad guns, air pliers, foot powered staplers and tackers, bench staplers and accessories. Fastener Corp. (L-950)

**COLLAPSIBLE TUBES.** Illustrated 8-page catalog describes a line of tin, lead, tin-lead and aluminum collapsible tubes, showing special tips and applicators and molded plastic and soft polyethylene caps available, and discussing decoration. Turner Tube Corp. (L-951)

**TEXTILE IDENTIFICATION ACT.** 8-page booklet discusses the Textile Fiber Products Identification Act under these headings: arrangement and placement of required information on labels; required terminology; ornamentation; trimmings and decorations; sectional disclosure and disclosure of elastic yarn on material; products in packages. Soabar Co. (L-953)

**FOUR-COLOR PRESS.** Illustrated 4-page brochure describes and gives specifications for a four-color press that prints up to 30,000 sheets/hr. Maximum printing width, 17 1/2 in. maximum printing length, 11 1/2 in. American Type Founders. (L-953)

**LABELERS.** Illustrated 8-page brochure describes a 4 in., 6 in., 8 in. and all-around labeler, 4 in., 5 in. and spot-type 5 in. duplex labeler, a 3-station unit, a corned beef can and a shoe box end labeler. Pneumatic Scale Corp., Ltd. (L-954)

**CORRUGATED CONTAINERS.** Illustrated 18-page brochure uses actual examples to show how attention to every aspect of the corrugated container can produce a design that cuts costs, has more sales appeal, smooths distribution or adds value to a product. Mead Containers. (L-955)

**TRANSFER LABELING.** Illustrated 4-page brochure describes a method and machine that transfer a rotogravure label design to film, foil or paper by heat and pressure. Up to 5 1/2 x 5 1/2 in. area. Said to combine the quality of direct printing with the flexibility of roll labeling. Samples. Dennison Manufacturing Co. (L-956)

**BONDED CELLULOSE SHEETING.** Illustrated 6-page brochure describes a non-woven cellulose material that resembles cloth and has its workability, but is disposable. Can be sewn, glued, dyed, printed and treated with a variety of chemicals to give it versatility of characteristics. Sample. Engineering assistance available. Kimberly-Clark Corp. (L-957)

**MEAT WRAPPING.** Illustrated 38-page booklet gives factual information on improving meat-wrapping in film. Describes a meat-wrapping cellophane. American Viscose Corp. (L-958)

**HISTORY OF GLASS BOTTLES.** Illustrated 30-page booklet gives the his-

tory of glass bottle making, outlining the evolution of techniques. Many identified drawings of famous antique types. Glass Container Manufacturers Institute (L-959)

**CONVEYOR CHAIN.** Illustrated 4-page brochure describes a new, projection welded conveyor chain, said to cost less initially and in maintenance than the riveted type. Prices. List of distributors. Diamond Chain Co., Inc. (L-960)

**LABEL DESIGN.** 20-page booklet discusses the importance of and the factors involved in creating product identity through label design. Treats specifically labels applied directly to the container by silk screen, offset printing or hot stamping. Each is discussed technically. Permanent Label Corp. (L-961)

**UNCASERS.** Two illustrated 6-page brochures describe: a universal uncasser, for all standard and most non-standard cases which handles 3- and 4-wide or 3-, 4-, 5- and 6-wide cases; a full-range, half depth uncasser for 6 to 32 oz. bottles, handling 3- and 4-wide cases and all cardboard and most metal carry-homes. Atkron Dumore (L-962)

**BREAD WRAPPING.** Illustrated 20-page brochure gives helpful information on proven procedures for bread wrapping machine installation, operation and maintenance and correct methods of handling and storing waxed paper. Waxed Paper Merchandising Council, Inc. (L-963)

**CONVEYORS.** Illustrated 4-page brochure describes a conveyor system that allows runs from horizontal to straight up or down and power turns to 180° with no transfer points and only one drive. Bulletin sheet describes a portable, motor driven, telescoping belt conveyor. Econ-O-Veyor Corp. (L-964)

**LIQUID FILLERS.** Illustrated 8-page brochure describes a line of gravity and vacuum filling machines. Rotary automatic types available in 8, 12, 16, 20, 30 or 40 spout models. Semi-automatic types, in various fill-capacities, have differing selections of spouts, between 4 and 12. MRM Co., Inc. (L-965)

**ELECTRIC BRAKES & CLUTCHES.** Illustrated 8-page brochure describes a line of electro-magnetic brakes, clutches and brake-clutches operating on direct current and requiring a maximum of 40 watts. Five sizes from 1/2 to 100 HP. Warner Electric Brake & Clutch Co. (L-966)

**TABLET BRUSHER.** Data sheet describes a three-brush tablet brushing machine with three goat hair brushes, 6 in. wide and 4 in. in diameter, easily removable. Vacuum connection cleans the machine continuously. Burnet Co. (L-967)

**CARTONING MACHINERY.** Two illustrated data sheets describe a cartoner that makes up to 40 cartons per min., accepting flat cartons not exceeding 12 x 14 in., and a feeder attachment and glue seal assembly for all of this company's cartoners. Lynch Corp. (L-968)

**TAG STRINGER AND KNOTTER.** Illustrated bulletin sheet describes machine that punches tags and threads and ties a string 3 to 6 in. from hole in tag to knot, or 6 to 12 in. single length. Cotton cord up to #18. Handles booklets and tags (not round) from 1 x 1 1/2 in. to 6 x 10 in. 10,000 per hour. Graeber Stringing & Wiring Machine Co. (L-969)

**BAGMAKERS, PRINTERS.** Three illustrated data sheets describe a 4 and 5 color flexographic press, a side-weld pouch-making machine and a combination polyethylene bagmaker and 3 color printer. Conapac Corp. (L-970)

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## EQUIPMENT • SUPPLIES • SERVICES

**CELLOPHANE FOOD PACKAGING.** Series of illustrated folders discusses such subjects as characteristics and uses of cellophane, produce packaging at store level and suggestions for success in self-service meats. Price lists. Guide to identifying films simply. American Viscose Corp. (L-971)

**COLLAPSIBLE TUBES.** Illustrated 4-page brochure describes a line of aluminum, tin, lead and tin-lead collapsible tubes, showing the variety of nozzles and caps available and discussing ink and enamel decorating. Venesta, Ltd. (L-972)

**SELF-STICKING TAPES.** Illustrated 42-page booklet describes typical uses for a line of self-sticking industrial tapes including 37 types. Permacel-Lepage's, Inc. (L-973)

**SPLICING PAPER, CELLOPHANE.** Illustrated 8-page report describes a method of making a flying splice between rolls of paper, cellophane or similar films on a press, using only an adhesive made for this purpose. Rubber and Asbestos Corp. (L-974)

**WRAPPING MACHINES.** Three illustrated 4-page brochures and a bulletin sheet describe a bun, roll and cake wrapper, a bundle wrapper, an overwrapper and a high-speed wrapper. Battle Creek Packaging Machines, Inc. (L-975)

**CAN SEAMER.** Illustrated 4-page brochure describes an adjustable roll type can seamer for attaching pre-curved metal closures to round metal or paper bodied cans. In two models, 70-200 containers per min. and 140-400 per min. John R. Nalbach Engineering Co. (L-976)

**ICE CREAM PACKAGING.** Illustrated catalog describes and gives specifications

and prices for a complete line of ice cream packaging machines and accessory equipment. Fillers, cappers, baggers, bar and sandwich makers, etc. Anderson Bros. Mfg. Co. (L-977)

**CONVERTING EQUIPMENT.** Three illustrated brochures describe a line of converting machinery including a slitter, doctor machines, automatic web guide and constant tension unwind stand. Stanford Engineering Co. (L-978)

**PLIOFILM.** Illustrated 18-page booklet discusses this homogeneous, rubber chloride, plastic film as a packaging material and describes a variety of applications in detail. End-use chart for all types and gauges included. Packaging Films Dept., Goodyear Tire & Rubber Co. (L-979)

**AEROSOL VALVES.** 10-page catalog gives descriptions and prices for a line of aerosol valves, actuators, spouts and cover caps. Covers terms of sale, delivery, etc. Precision Valve Corp. (L-980)

**BLOW MOLDING EQUIPMENT.** Illustrated 4-page brochure lists specifications and describes components and operations of blow molding machines with production capacities to 450 lbs. of material per hour. Auto-Blow Corp. (L-981)

**COMPRESSION TESTER.** Illustrated bulletin sheet describes and gives specifications for a compression tester in two models, one with scale ranges of 0-5,000 lbs. and 0-10,000 lbs. and the other 0-15,000 and 0-30,000 lbs. Electronic instrumentation and recording. Gaynes Engineering Co. (L-982)

**WOOD-GRAINED PAPER.** Sample book of 35 sheets, each showing a different wood-grain design. Some available in 26-in. rolls, others in 26- and 30-in. Price list. Matthias Paper Corp. (L-983)

**BOTTLE SEALS.** Illustrated brochure describes an aluminum seal for threaded-neck bottles, in three types, two pilfer-proof. Also describes machinery for applying the seals. Metal Closures, Ltd. (L-984)

**PACKAGING EQUIPMENT.** Illustrated 6-page brochure describes a machine that forms, weighs and fills and seals bags of polyethylene, cellophane, etc., and can be provided with special scales, fillers, feeders, table feed conveyors, liquid fillers, counters, etc. Mercury Heat-Sealing Equipment Co. (L-985)

**ADHESIVES FOR BREWERS.** 8-page catalog describes and gives specifications for a line of adhesives that includes ice-proof bottle labeling adhesives and six-pack and case sealing adhesives, in a variety of formulae. H. B. Fuller Co. (L-986)

**WRAPPING MACHINES.** Illustrated 8-page brochure describes a line of wrapping machines in various models, for handling candies, foods and small articles, for bundling and for carton wrapping. Uses films, foils and papers. Crompton & Knowles Packaging Corp. (L-987)

**ELECTRONIC UNWIND UNIT.** Illustrated bulletin sheet describes an automatically adjusting, electronic unwind unit that can be installed on any of the manufacturer's presses. New Era Mfg. Co. (L-988)

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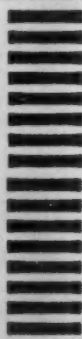
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**COLLAPSIBLE TUBES.** Illustrated 8-page catalog describes a line of tin, lead, tin-lead and aluminum collapsible tubes, showing special tips and applicators and molded plastic and soft polyethylene caps available, and discussing decoration. Turner Tube Corp. (L-951)

**TEXTILE IDENTIFICATION ACT.** 8-page booklet discusses the Textile Fiber Products Identification Act under these headings: arrangement and placement of required information on labels; required terminology; ornamentation; trimmings and decorations; sectional disclosure and disclosure of elastic yarn on material; products in packages. Soabar Co. (L-952)

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**TRANSFER LABELING.** Illustrated 4-page brochure describes a method and machine that transfer a rotogravure label design to film, foil or paper by heat and pressure. Up to 5½ x 5½ in. area. Said to combine the quality of direct printing with the flexibility of roll labeling. Samples. Dennison Manufacturing Co. (L-956)

**BONDED CELLULOSE SHEETING.** Illustrated 6-page brochure describes a non-woven cellulose material that resembles cloth and has its workability, but is disposable. Can be sewn, glued, dyed, printed and treated with a variety of chemicals to give it versatility of characteristics. Sample. Engineering assistance available. Kimberly-Clark Corp. (L-957)

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**CONVEYOR CHAIN.** Illustrated 4-page brochure describes a new, projection welded conveyor chain, said to cost less initially and in maintenance than the riveted type. Prices. List of distributors. Diamond Chain Co., Inc. (L-960)

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**UNCASERS.** Two illustrated 6-page brochures describe: a universal uncasser, for all standard and most non-standard cases which handles 3- and 4-wide or 3-, 4-, 5- and 6-wide cases; a full-range, half depth uncasser for 6 to 32 oz. bottles, handling 3- and 4-wide cases and all cardboard and most metal carry-homes. Atkron Dumore (L-962)

**BREAD WRAPPING.** Illustrated 20-page brochure gives helpful information on proven procedures for bread wrapping machine installation, operation and maintenance and correct methods of handling and storing waxed paper. Waxed Paper Merchandising Council, Inc. (L-963)

**CONVEYORS.** Illustrated 4-page brochure describes a conveyor system that allows runs from horizontal to straight up or down and power turns to 180° with no transfer points and only one drive. Bulletin sheet describes a portable, motor driven, telescoping belt conveyor. Econ-O-Veyor Corp. (L-964)

**LIQUID FILLERS.** Illustrated 8-page brochure describes a line of gravity and vacuum filling machines. Rotary automatic types available in 8, 12, 16, 20, 30 or 40 spout models. Semi-automatic types, in various fill-capacities, have differing selections of spouts, between 4 and 12. MRM Co., Inc. (L-965)

**ELECTRIC BRAKES & CLUTCHES.** Illustrated 8-page brochure describes a line of electro-magnetic brakes, clutches and brake-clutches operating on direct current and requiring a maximum of 40 watts. Five sizes from ¼ to 100 HP. Warner Electric Brake & Clutch Co. (L-966)

**TABLET BRUSHER.** Data sheet describes a three-brush tablet brushing machine with three goat hair brushes, 6 in. wide and 4 in. in diameter, easily removable. Vacuum connection cleans the machine continuously. Burnet Co. (L-967)

**CARTONING MACHINERY.** Two illustrated data sheets describe a cartoner that makes up to 40 cartons per min., accepting flat cartons not exceeding 12 x 14 in., and a feeder attachment and glue seal assembly for all of this company's cartoners. Lynch Corp. (L-968)

**TAG STRINGER AND KNOTTER.** Illustrated bulletin sheet describes machine that punches tags and threads and ties a string 3 to 6 in. from hole in tag to knot, or 6 to 12 in. single length. Cotton cord up to #18. Handles booklets and tags (not round) from 1 x 1½ in. to 6 x 10 in. 10,000 per hour. Graeber Stringing & Wiring Machine Co. (L-969)

**BAGMAKERS, PRINTERS.** Three illustrated data sheets describe a 4 and 5 color flexographic press, a side-weld pouch-making machine and a combination polyethylene bagmaker and 3 color printer. Conapac Corp. (L-970)

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**CELLOPHANE FOOD PACKAGING.** Series of illustrated folders discusses such subjects as characteristics and uses of cellophane, produce packaging at store level and suggestions for success in self-service meats. Price lists. Guide to identifying films simply. American Viscose Corp. (L-971)

**COLLAPSIBLE TUBES.** Illustrated 4-page brochure describes a line of aluminum, tin, lead and tin-lead collapsible tubes, showing the variety of nozzles and caps available and discussing ink and enamel decorating. Venesta, Ltd. (L-972)

**SELF-STICKING TAPES.** Illustrated 42-page booklet describes typical uses for a line of self-sticking industrial tapes including 37 types. Permacel-Lepage's, Inc. (L-973)

**SPLICING PAPER, CELLOPHANE.** Illustrated 8-page report describes a method of making a flying splice between rolls of paper, cellophane or similar films on a press, using only an adhesive made for this purpose. Rubber and Asbestos Corp. (L-974)

**WRAPPING MACHINES.** Three illustrated 4-page brochures and a bulletin sheet describe a bun, roll and cake wrapper, a bundle wrapper, an overwrapper and a high-speed wrapper. Battle Creek Packaging Machines, Inc. (L-975)

**CAN SEAMER.** Illustrated 4-page brochure describes an adjustable roll type can seamer for attaching pre-curved metal closures to round metal or paper bodied cans. In two models, 70-200 containers per min. and 140-400 per min. John R. Nalbach Engineering Co. (L-976)

**ICE CREAM PACKAGING.** Illustrated catalog describes and gives specifications

and prices for a complete line of ice cream packaging machines and accessory equipment. Fillers, cappers, baggers, bar and sandwich makers, etc. Anderson Bros. Mfg. Co. (L-977)

**CONVERTING EQUIPMENT.** Three illustrated brochures describe a line of converting machinery including a slitter, doctor machines, automatic web guide and constant tension unwind stand. Stanford Engineering Co. (L-978)

**PLIOFILM.** Illustrated 18-page booklet discusses this homogeneous, rubber chloride, plastic film as a packaging material and describes a variety of applications in detail. End-use chart for all types and gauges included. Packaging Films Dept., Goodyear Tire & Rubber Co. (L-979)

**AEROSOL VALVES.** 10-page catalog gives descriptions and prices for a line of aerosol valves, actuators, spouts and cover caps. Covers terms of sale, delivery, etc. Precision Valve Corp. (L-980)

**BLOW MOLDING EQUIPMENT.** Illustrated 4-page brochure lists specifications and describes components and operations of blow molding machines with production capacities to 450 lbs. of material per hour. Auto-Blow Corp. (L-981)

**COMPRESSION TESTER.** Illustrated bulletin sheet describes and gives specifications for a compression tester in two models, one with scale ranges of 0-5,000 lbs. and 0-10,000 lbs. and the other 0-15,000 and 0-30,000 lbs. Electronic instrumentation and recording. Gaynes Engineering Co. (L-982)

**WOOD-GRAINED PAPER.** Sample book of 35 sheets, each showing a different wood-grain design. Some available in 26-in. rolls, others in 26- and 30-in. Price list. Matthias Paper Corp. (L-983)

**BOTTLE SEALS.** Illustrated brochure describes an aluminum seal for threaded-neck bottles, in three types, two pillar-proof. Also describes machinery for applying the seals. Metal Closures, Ltd. (L-984)

**PACKAGING EQUIPMENT.** Illustrated 6-page brochure describes a machine that forms, weighs and fills and seals bags of polyethylene, cellophane, etc., and can be provided with special scales, fillers, feeders, table feed conveyors, liquid fillers, counters, etc. Mercury Heat-Sealing Equipment Co. (L-985)

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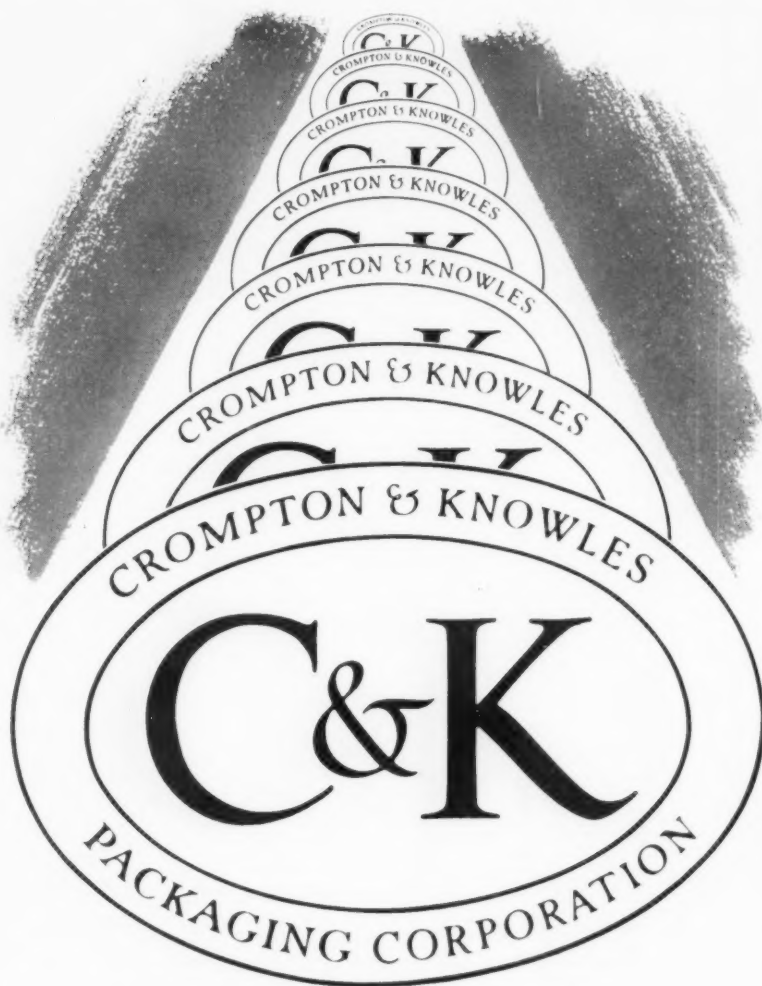
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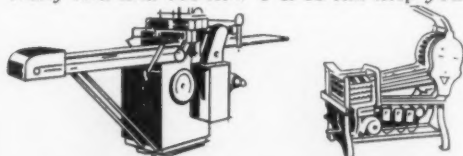
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## Improved polyethylene

With the use of a simple annealing chamber, the U. S. Industrial Chemicals Co. reports that it has produced tubular polyethylene film with clar-



*Improved clarity of USI's annealed tubular polyethylene film (right) contrasts sharply with cloudier sample (left) made without annealing.*

ity and gloss substantially improved over that of conventional low-density polyethylene film.

The low cost of the annealing device is said to permit film production at virtually no added expense.

USI's new material is expected to appeal to packagers because of its eye appeal and its more balanced tear strength. It is particularly suggested for packaging produce, hardware, toys, some foodstuffs and industrial materials.

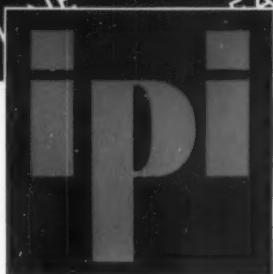
The improved clarity and gloss are attributed to a raised frost line.

Experiments at USI's Tuscola, Ill., laboratories demonstrate a need for close control in resin compounding and such mechanical operations as take-off to overcome the material's minor disadvantages in slip, blocking and wrinkle.

Also under laboratory test at the Tuscola installation are improved techniques of chill-roll quenching—a relatively new surface treatment for flat-die extruded films of low density that markedly increases clarity and gloss. In this process, the extruded film of molten resin is rapidly passed around a cool drum, which is thought to create an amorphous arrangement of the resin molecules. ●

## Glass strike ends

Agreement has been reached in the 51-day strike of 2,000 mold makers against 26 glass-container firms. A two-year pact was signed after negotiators for the American Flint Glass Workers Union and the Glass Container Mfrs. Institute agreed on a wage and benefit package amounting to 27 cents an hour. ●



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## SEAL SPOUT Corp.

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## Film strengths

[Continued from page 137]

had little effect on the strength of bags made with a sealer setting of six. Using a sealer setting of 10, the heat process resulted in slightly higher bag strengths with all the polyethylene films and the polypropylene film. With polyester film, the results show some evidence that processing 30 min. at 250 deg. F. has an adverse effect on the bag strength, particularly on bags made at the higher heat-sealer settings.

These observations indicate that the optimum sealing conditions of films as determined by estimations of the burst strength of bags may not be the same after the bags are heat processed, depending on the type of film used. It may be beneficial to sacrifice some initial seal strength in order to obtain seals of maximum strength after processing.

During the heat processing of packaged foods, internal pressures within the packages are produced and the package material must have sufficient strength to resist these pressures. Results on the strength of bags made from the films in the present study at several processing temperatures are included in Table I. The decrease in strength at 212 deg. F. was considerable with bags made from high-density polyethylene and polypropylene films. Increases in the thickness of blown polyethylene film resulted in some increase in bag strength as measured at 212 deg. F., but the values observed were approximately 70% lower than the values estimated at room temperature.

The strength of polyester bags at 212 deg. F. and 233 deg. F. was similar to the strength found at 75 deg. F., but as observed previously, bags made from polyester film and processed 30 min. at 250 deg. F. showed a decrease in strength. This is probably an effect influenced by both the time of exposure to high temperature as well as the temperature. Some evidence for this is shown in Table II.

## Conclusions

The usefulness of a simple method for the estimation of the burst strength of bags made from flexible films has been outlined. The method is particularly suitable for studying the behavior of films intended for





*memo from*  
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W. B. Bronander, Jr., President

Dear Jack:

Many thanks for the time you spent with us in our booth at the PMMI Show. Thanks, too, for showing so much interest in our new models.

We sincerely hope you went away satisfied - and "sold" - with the answers our engineers gave to your questions.

You're on the list to receive our new Technical Information Book. Meanwhile, send along your packages for engineering evaluation. Our formal quote will be on your desk within a week.

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This automatic packaging machine unwinds plastic sheet from the reel, heats it, forms a container and fills it by means of a separate filling unit or manually, closes the pack and trims it from the web. All these functions are synchronized, and take place within the machine. The shape of the container can be chosen to suit each individual product, and the filling method can be adapted to liquids, pastes, powders or solid articles. The Formseal produces up to 20,000 units per hour depending on product and material.

Max. molding area: 10" x 10"

Max. depth of draw: 3 1/4"

Machine measurements: Length — 9' 7",  
Width — 2' 5", Height — 4' 10"

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use with heat-processed foods and may be used for:

1. The determination of optimum heat-sealing conditions before heat processing.

2. The determination of the effect of heat processing on films and heat-seal strengths.

3. The determination of the strength of completed packages at processing temperatures.

In addition, data were obtained on three different films which indicate that films may differ widely in their behavior under processing conditions.

#### Acknowledgment

The authors are indebted to the American Viscose Co. for a generous grand-in-aid which made this work possible.

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#### Sales remedy

[Continued from page 106]

tablets per minute for the 29-cent size in which tablets are placed in a single layer. This latter speed is reported to be 75% faster than the original guarantee made by the counter manufacturer.

After filling, the flat 29-cent cans are conveyed over vibrator rolls to position the tablets in neat rows. This step isn't necessary for the other can sizes. All sizes are then hand stuffed with literature and visually inspected before passing under a pressure wheel which tightly closes the hinged lids.

The 29-cent cans continue to be individually overwrapped because (1) the bulk and sparkle of the cellophane tends to make this small-sized package look more important



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filling	packaging
bag forming	boxing
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If you want “as promised” delivery on polyethylene film, sheet, tubing, lay flat, and gusseted—both printed and converted . . .

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You want Keystone Packaging Service! Keystone manufacturers, converts, prints, designs. And delivers *as promised!* Write or call today for free bag and roll stock samples—and for quotations on your requirements. Keystone Packaging Service, 555 Warren St., Phillipsburg, N. J.

**KEYSTONE**  
 flexible packaging

Keystone Packaging Serv., 555 Warren St., Phillipsburg, N.J.

and (2) it prevents lids from opening accidentally when cans are tossed into that declining but still existent institution, the drug store “laxative drawer.” This wrapping operation is performed on a machine converted from wrapping Tums. Overwrapping for individual units in the larger sizes has been discontinued. A small strip of transparent pressure-sensitive tape now prevents lid popping.

Six of the 59-cent and \$1.19 sizes and 12 of the 29-cent size are then placed by hand in the paperboard trays. If the expected sales gain materializes, NR will probably invest in automatic equipment for tray forming and loading.

The trays are now set up and glued by means of a small machine devised by NR's own packaging department and are formed on the line as needed. These sloping-side trays are of varnished black paperboard with white lettering and are trimmed in the color of the cans

which they house, in either red, blue or in green.

The tray-packed tins are then overwrapped in heat-sealable cellophane by means of a wrapper which also applies a pull tape for easy opening. The overwrap holds the tins securely in the trays and protects the individual packages. NR is now experimenting with a band of cellophane that is the length of the tray instead of a full overwrap. If the band does an adequate protective job in shipment and storage, it will be substituted for the overwrap in the two larger sizes.

While NR's promotion is being stepped up, the brunt of its drive for increased sales rests on the new and eye-catching package. Evidence so far indicates this effort is paying off. Moral: The fact that a product's selling life has reached three score and 10 is no excuse for losing youthful appeal. Packages, like aging movie stars, can nearly always benefit from a face lifting. ●

## The Times in polyethylene

[Continued from page 125]

economies in labor and in increased speed on the new packaging line. This combination, which handles up to 1,500 papers per hour, is a compact arrangement of equipment that starts with two semi-automatic baggers, placed at right angles to a main conveyor. Each bagger has a magazine that holds about 200 polyethylene “J” bags, so named because they have an extended lip. An air blast automatically opens each bag. Hand inserting the paper causes two pivoted stainless steel arms to enter the bag to spread the opening and facilitate loading.

The full bag is pushed by the operator onto a wide conveyor belt, where a guide rail aligns the bag in a horizontal position for heat sealing. The seal is applied by a long hot-wire element that trims off excess polyethylene from the top of the bag. Photo-eye and limited-switch controls shut off the sealer if any part of the newspaper inadvertently extends into the seal area.

The special labeler works from roll stock pre-printed on addressing machines. The label web passes around a conventional tension roll, then through a special registration head that employs ultrasonic sound

waves to insure accurate cut-off. Between each label, a 1/4-in. hole permits the sound waves to pass through the web, instantly activating a knife at the end of the web.

After the registration device, the web passes through a heater held at a constant temperature, which softens the thermoplastic coating. At the point of application, the label is cut from the web, pushed down on the face of the bagged newspaper by a reciprocating arm and firmly adhered by a roller. Packaged newspapers are then conveyed by rollers to a waiting mail bag.

Both the labeler and the main conveyor belt can be raised or lowered to compensate for varying thickness of the product. They are adjusted only once at the beginning of each run.

So successfully has this new packaging operation performed that the *Times* is already working to boost belt speed on the present machine to 5,000 copies per hour and is considering blueprint plans for completely automatic equipment that would whisk newspapers from stacks into mailing sacks at even higher speeds without a single hand operation. ●



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**LATEX COATED BOXBOARD . . . a superior**  
**printing surface makes a better selling surface**



It's a lot of little things that latex coatings do for package surfaces . . . but they add up to one big sales advantage: The finest possible representation of your product.

The front of this insert, printed on .010 pt. latex coated boxboard, demonstrates these benefits. An improved gloss, for example, that keeps packages fresh looking longer. Note the brilliance and sharp detail of full color printing.

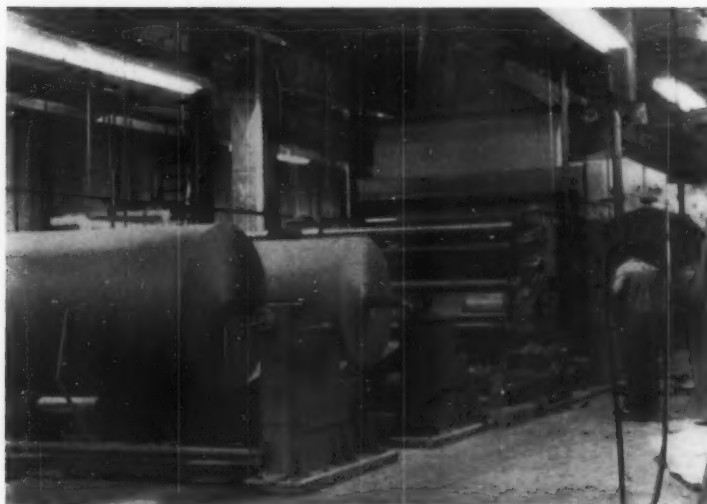
If you coat or manufacture boxboard you'll appreciate the versatility, heavier coating weights, or higher machine speeds and shorter drying time possible with Dow Latex. Whether you're a paper man, a packaging man or a product man, you'll want to find out more about latex coated boxboard. Write today to THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Dept. 2324CR.

**DOW**



**THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN**

## New 92-in. laminator at Florida plant



One of the largest laminating machines ever made is now in operation.

The St. Joe Paper Co. recently installed a 92-in. laminator, one of the largest ever made, at its paperboard mill and box plant in Port St. Joe, Fla. The new machine permits the company's box plants to offer specially decorated and coated containers. In addition, the machine can

produce 90-lb. liners merely by laminating together the linerboard from two rolls of kraft. The company reports that several successful runs have been made in laminating aluminum foil to board.

SUPPLIES AND SERVICES: Laminator by Inta-Roto Machine, Richmond 3, Va. •

## Produce packaging conference and show

A tour of 31 exhibits at the Produce Packaging Assn.'s recent ninth annual Packaging Conference & Exhibition revealed an accelerated trend toward faster packaging speeds, more protective materials, better brand identification and greater convenience. The collective aim of these achievements is a finished package for fresh fruits and vegetables that is economical and easy for the retailer to handle and can compete more effectively with frozen and canned produce in self-selection retail outlets.

The need for improved produce pre-packaging was pointed up in the keynote address by Paul J. Cupp, president of the American Stores Co. chain. Citing a Produce Packaging Assn. survey which reported that frozen and canned fruits and vegetables are cutting into the sales of fresh produce nationally, he said better marketing methods by packagers could eliminate further inroads. Mr. Cupp predicted that retailers' backroom labor and expense eventually will be curtailed by more uniform quality standards among shippers of

produce and by improved pre-packaging. "Our customers," he said, "should be able to buy any package of fresh produce with as much confidence as they buy our finest brand of canned asparagus."

Predominantly in evidence among exhibits at the Philadelphia exposition were multi-head bagging machines, tray-overwrapping machinery, new and improved films and stronger, more moisture resistant and more colorful packaging trays and shipping containers.

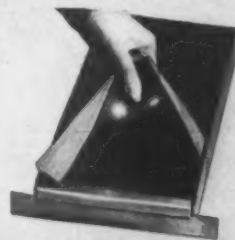
An exhibit which drew much attention was a combination bagging and tray-overwrapping line on which both operations were performed simultaneously. On one side of the line, bulk quantities of fresh produce (such as potatoes) were automatically weighed and bagged, then conveyed to a bag sealer. On the opposite side of the line, paperboard trays were set up automatically and conveyed to operators who filled them manually with produce of approximately equal size and shape. The trays then were automatically overwrapped with cellophane. •

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## NFPA meeting

Nearly 300 attended the fall meeting of the National Flexible Packaging Assn. at the Greenbrier, White Sulphur Springs, W. Va., last month. The program included a session on industry sales and profit questions; a report on Russian packaging by Roy E. Hanson of Milprint; an address by Horace B. McCoy, administrator of the Business & Defense Services Administration of the Department of Commerce, and a panel discussion of the legal and technical aspects of the new Food Additives Amendment.

It was suggested that under present interpretations of F&DA rules it would be best to avoid any contact of printing inks with food materials. Hope was held that polypropylene film would soon have F&DA clearance and that remaining questions regarding polyethylene in contact with fatty acids would be settled.

Winners of awards in the fourth annual National Flexible Packaging Competition (see p. 107, this issue) were announced and shown from a color film strip.

The board of directors approved plans for a second symposium at Michigan State University, May 23-25. They also approved the recommendations of a task committee on the Food Additives Amendment to serve a formal request on ink and adhesive manufacturers for products meeting requirements of the new law as soon as possible.

Managing Director John M. Cowan announced plans for the next annual meeting, Waldorf-Astoria, New York, Jan. 19-21, and for a fall meeting, Boca Raton, Fla., Nov. 2-6. ●

## Technical group meets

Increased technical activities in both packaging materials and machines were pinpointed at the recent annual meeting of Packaging Institute's Technical Operations Committee in New York. The group represents 28 working committees. Revealed to the more than 60 packaging leaders attending were such recent activities as the formation of three new groups in the materials division to investigate aerosols, folding boxes and resins. Formulation of new testing techniques and the study of current problems in packaging production, packaging machinery and printing were also detailed. ●

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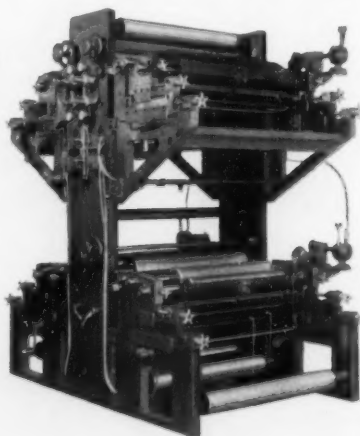
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**Dairy products**

Current problems and future prospects in materials and machinery for packaging dairy products were thoroughly explored at the second special meeting of Professional Members of the Packaging Institute in Chicago recently. Twenty-one panel members answered 260 questions for the benefit of 145 packagers attending.

For ice cream, it was disclosed that new machinery is being developed to set up and fill gallon packages and half-gallon round containers and to case round units. With better printing and elimination of cracking problems, experts predict a good future for rigid plastic containers, but a limitation for unsupported plastic to capacities of less than one quart.

The panel foresees more dairy products packaged specifically for vending machines and a bright prospect for more portion sizes in ice cream and milk. In the other direction, a trend was reported toward large-size metal and plastic milk containers home delivered by the milkman for storage and dispensing in separate refrigeration units.

Packages now used for cottage cheese were criticized for poor waxing, poor lacquering of lids, excessive air space, loose seals and breakage of plastic containers. For lids, plastic was rated best, but plastic containers for this product were said to be uneconomic and to have reached a saturation point in their appeal to housewives intent on collecting them for their re-use value.

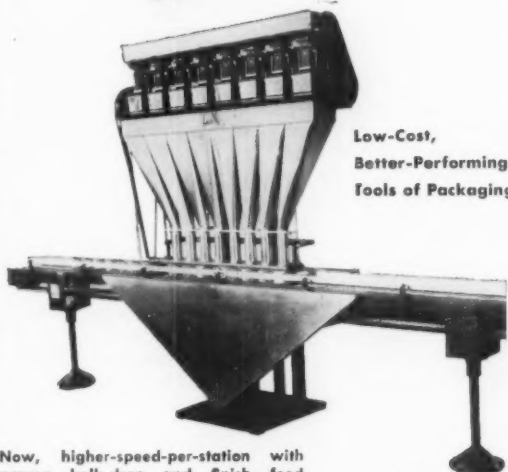
Good prospects were seen for F&DA approval under the new Food Additives Amendment of polyethylene-coated board for milk containers after extractability tests. One panel member cited an F&DA letter stating that there was "no information presently in our possession nor under development that leads us to believe your containers do not satisfy requirements of laws enforced by F&DA."

The meeting also heard that extensive tests are now being made on the extraction and toxicological properties of various kinds of waxes, including 18 paraffin and eight microcrystalline.

N. W. Postweiler of Riegel Paper was chairman of the meeting and L. J. Hayhurst of National Dairy Dairy Products was moderator. ●



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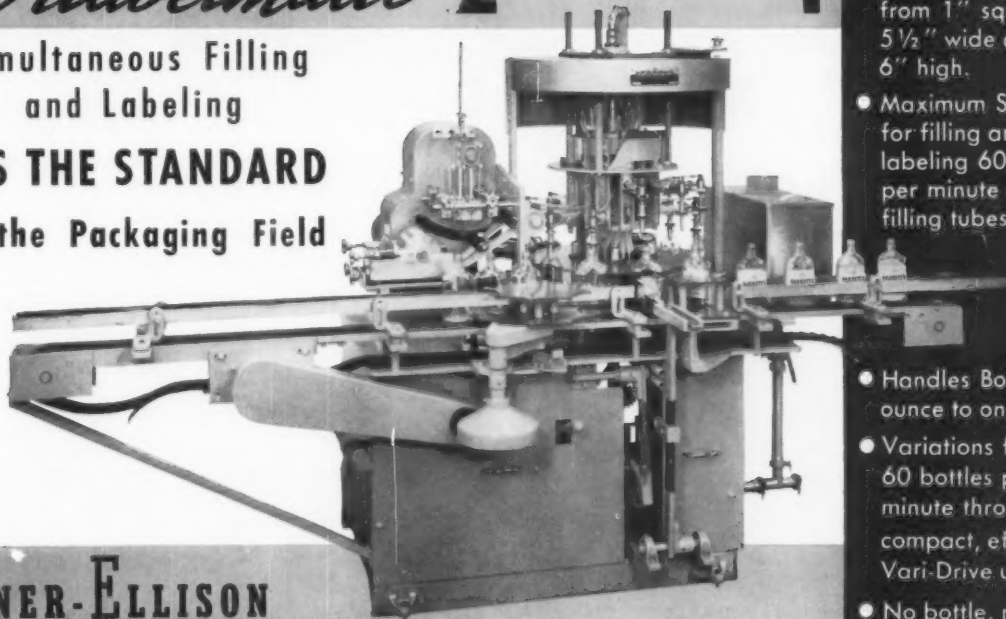
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Also see pages 187, 198, 228

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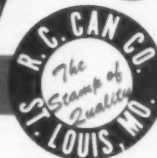
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**FOR SALE—NEW JERSEY PONY LABEL-DRI** machine Model 86TO. Reply Box 1166, Modern Packaging.

**FOR SALE — BRIGHTWOOD BOX MACHINES**—2 of each Models: 4" Under Feeds, 6" Top Feeds, Universals; 48" wide Duplex Shear-Cut and 36" Score-Cut Slitters & Rewinders; 38" x 24" Seybold 4 Post Die Cutters; Staude Right Angle Folding Carton Gluer. Box 1165, Modern Packaging.

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**WE ARE LOOKING FOR MEN** who are interested in Product Development and Improvement for the New Products group working in the Research Laboratories of one of the country's largest producers of printing, converting, and technical papers, and of imaginative packaging and containers. A technical background with experience in plastics, resins, elastomers, latices, or paper is the basic requirement to fill these new positions in our expanding Research organization. Add to this imagination, creativeness, and product-mindedness, and you describe the men we are seeking. Mead offers opportunity for recognition, growth and advancement. Location, Chillicothe, a pleasant town of 28,000 in southern Ohio. Your inquiry with full resume will receive immediate confidential attention. Write to: Hugh D. Meilinger, Technical Employment Supervisor, The Mead Corporation, Chillicothe, Ohio.

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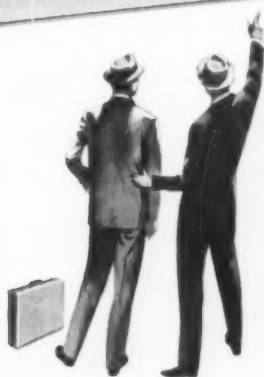
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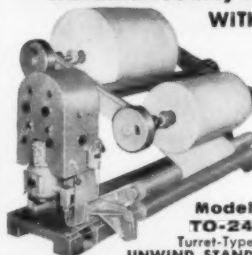


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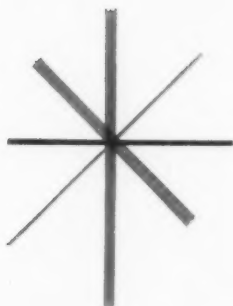
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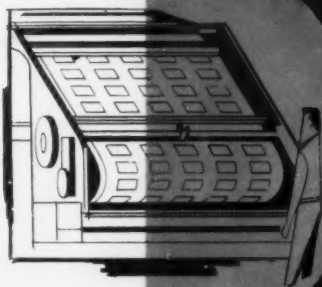
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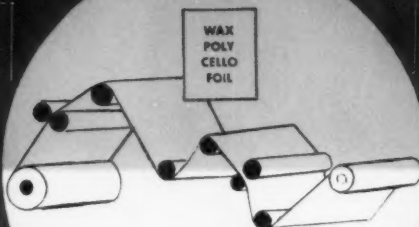
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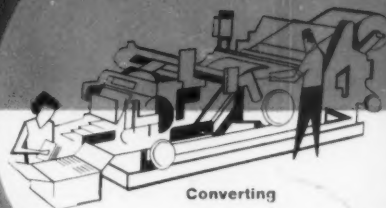
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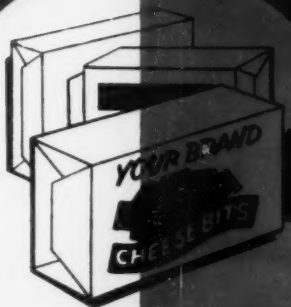
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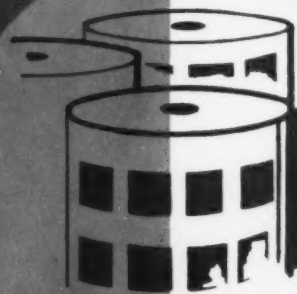
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